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DECEMBER 1980 NUMBER 436 -- Part I

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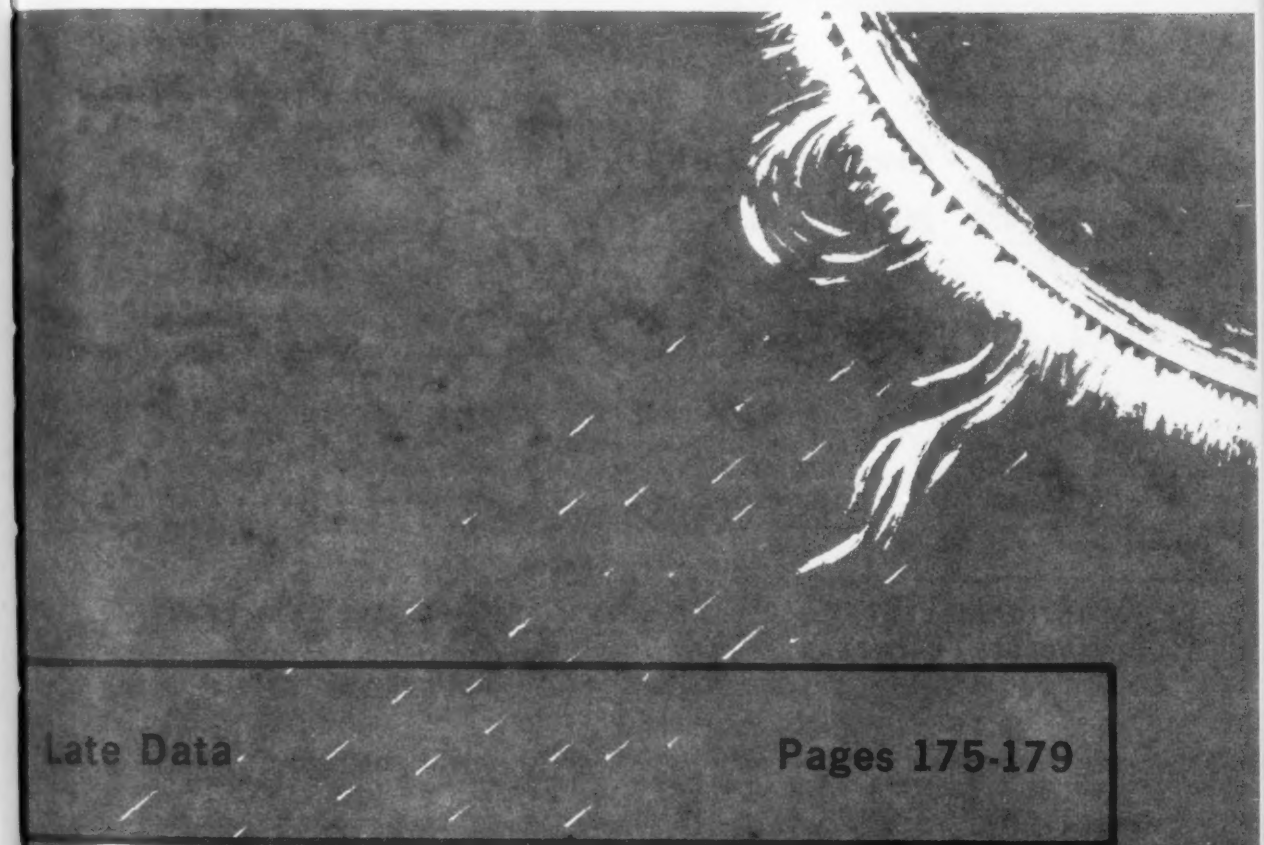
Solar-Geophysical Data prompt reports

Data for November 1980, October 1980 & Late Data

Explanation of Data Reports Issued as Number 426 (Supplement) February 1980



Late Data Pages 175-179

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Solar - Geophysical Data

NO. 436 DECEMBER 1980

Part I (Prompt Reports)

DATA FOR
NOVEMBER 1980
OCTOBER 1980

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SOLAR-GEOPHYSICAL DATA

No. 436

Issued in two parts

Helen E. Coffey, Editor

J. Virginia Lincoln, Chief
Solar-Terrestrial Physics Division

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Notes:

"425A 48" listed under 1979 Nov means that the sunspot drawings for Nov 1979 were contained in *Solar-Geophysical Data* Number 425 - Part I, beginning on page 48.

A = Part I, B = Part II.

----- = no data available.
blank = data not yet received.

NOVEMBER 1980 DATA

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PRESTO N

03 NOVEM

05 NOVEM

06 NOVEM

07 NOVEM

08 NOVEM

09 NOVEM
10 NOVEM

11 NOVEM

12 NOVEM

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14 NOVEM
15 NOVEM

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21 NOVEM

23 NOVEM

ALERT PERIODS

INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

NOVEMBER 1980

PRESTO MESSAGES (THE RAPID REPORT OF MAJOR EVENTS)

03 NOVEMBER 1980	PRESTO TOYOKAWA	03/0333Z TENFLARE 100 FLUX UNITS 03/0145Z DURATION 55 MINUTES
	PRESTO SYDNEY	03/0220Z SOFLARE M3/2B N12E44 03/0158Z DURATION 18 MINUTES
	PRESTO BOULDER	03/1423Z SOFLARE M1/2B N05E10 03/1355Z DURATION 17 MINUTES
05 NOVEMBER 1980	PRESTO BOULDER	05/1500Z SOFLARE X4/2B S12E74 05/1355Z DURATION 25 MINUTES
	PRESTO MEUDON	05/1500Z METRIC BURST AT NANCAY START 05/1345Z PROBABLY SOUTH EAST LIMB
06 NOVEMBER 1980	PRESTO TOYOKAWA	06/0020Z TENFLARE 420 FLUX UNITS 05/2232Z DURATION 8 MINUTES
	PRESTO SYDNEY	06/0350Z SOFLARE CULGOORA TWO BRIGHT REGION 2779 S16E72 MAXIMUM 0348Z STRONG TYPE II
	PRESTO BOULDER	06/0408Z SOFLARE X9/2B S11E70 06/0350Z IN PROGRESS TENFLARE 1600 FLUX UNITS 06/0337Z DURATION 20 MINUTES
	PRESTO TOYOKAWA	06/0440Z TENFLARE 2400 FLUX UNITS 06/0337Z DURATION 60 MINUTES
	PRESTO TOYOKAWA	06/0705Z TENFLARE 200 FLUX UNITS 06/0648Z DURATION 7 MINUTES
	PRESTO BOULDER	06/1745Z SOFLARE M4/2B S09E65 06/1728Z DURATION 68 MINUTES
07 NOVEMBER 1980	PRESTO SYDNEY	07/0230Z SOFLARE IMPORTANCE TWO VERY BRIGHT N10W07 07/0204Z TENFLARE 772 FLUX UNITS 07/0204Z
	PRESTO TOYOKAWA	07/0240Z TENFLARE 2800 FLUX UNITS 07/0202Z DURATION 20 MINUTES
	PRESTO BOULDER	07/0406Z SOFLARE X2/2B N07W11 07/0200Z DURATION 55 MINUTES TENFLARE 07/0406Z 1100 FLUX UNITS 07/0203Z DURATION 14 MINUTES
	PRESTO SYDNEY	07/0420Z SUPPLEMENTARY CULGOORA OBSERVATORY REPORTS THAT THE FLARE NOVEMBER 07/0204Z WAS ACCOMPANIED BY STRONG MICROWAVE BURST BUT NO TYPE II OR IV.
	PRESTO MEUDON	07/1450Z VERY BRIGHT FLARE OBSERVED AT MEUDON IN REGION 2776 ON 1440Z IN PROGRESS ON 1455Z PROBABLE IMP 1
	PRESTO BOULDER	07/1744Z SOFLARE M8/2B N09W16 07/1723Z DURATION 28 MINUTES
08 NOVEMBER 1980	PRESTO BOULDER	08/1425Z SOFLARE X3/2B N11W29 08/1334Z DURATION 10 MINUTES TENFLARE 1075 FLUX UNITS 08/1335Z DURATION 16 MINUTES
09 NOVEMBER 1980	PRESTO BOULDER	09/1430Z SOFLARE M1/2B S18E02 09/0052Z DURATION 72 MINUTES
10 NOVEMBER 1980	PRESTO BOULDER	10/1415Z SOFLARE M8/2B S12W54 10/1138Z DURATION 64 MINUTES TENFLARE 520 FLUX UNITS 10/1138Z DURATION 10 MINUTES
11 NOVEMBER 1980	PRESTO BOULDER	11/1034Z SOFLARE M9/2B N10W63 11/0904Z DURATION 45 MINUTES 11/1807Z SOFLARE M4/2B S11W70 11/1738Z DURATION 30 MINUTES 11/1827Z TENFLARE 400 FLUX UNITS DURATION 11 MINUTES
12 NOVEMBER 1980	PRESTO BOULDER	12/0500Z SOFLARE X2/2B N10W72 12/0453Z IN PROGRESS
	PRESTO SYDNEY	12/0505Z X2/2B FLARE REGION 2776 N11W77 START 0448Z MAX 0458Z STRONG FADE MICROWAVE BURST TO 8000 MHZ AT CULGOORA
	PRESTO TOYOKAWA	12/0548Z TENFLARE 240 FLUX UNITS 12/0446Z DURATION 20 MINUTES
13 NOVEMBER 1980	PRESTO TOYOKAWA	13/0023Z TENFLARE 210 FLUX UNITS 12/2152Z DURATION 1 MINUTE
	PRESTO TOYOKAWA	13/0120Z TENFLARE 150 FLUX UNITS 13/0054Z DURATION 15 MINUTES
	PRESTO TOYOKAWA	13/0505Z TENFLARE 420 FLUX UNITS 13/0405Z DURATION 10 MINUTES
	PRESTO SYDNEY	13/0610Z TENFLARE 425 FLUX UNITS 13/0404Z DURATION 8 MINUTES
	PRESTO BOULDER	13/1423Z TENFLARE 410 FLUX UNITS 13/0405Z DURATION 9 MINUTES
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14 NOVEMBER 1980	PRESTO BOULDER	14/1557Z SOFLARE M2/2B S16W39 14/1539Z DURATION 20 MINUTES
15 NOVEMBER 1980	PRESTO BOULDER	15/0130Z SOFLARE M6/1B S14W48 14/2347Z DURATION 74 MINUTES TENFLARE 210 FLUX UNITS 14/2354Z DURATION 15 MINUTES
	PRESTO TOYOKAWA	15/0016Z TENFLARE 210 FLUX UNITS 14/2355Z DURATION 15 MINUTES
	PRESTO CULGOORA	15/0010Z SOFLARE 3 BRIGHT START 2355Z MAX 2359Z 14 NOVEMBER
	PRESTO BOULDER	15/1603Z SOFLARE X1/1B S12W53 15/1550Z IN PROGRESS 1606Z TENFLARE 358 FLUX UNITS DURATION 21 MINUTES
16 NOVEMBER 1980	PRESTO TOYOKAWA	16/0120Z TENFLARE 130 FLUX UNITS 15/0700Z DURATION 6 MINUTES
	PRESTO BOULDER	16/0921Z SOFLARE M8/2B S14W66 16/0906Z DURATION 2 MINUTES
	PRESTO TOYOKAWA	16/0117Z TENFLARE 100 FLUX UNITS 16/0052Z DURATION 15 MINUTES
20 NOVEMBER 1980	PRESTO BOULDER	20/1408Z TENFLARE 280 FLUX UNITS 20/0805Z DURATION 9 MINUTES
	PRESTO TOYOKAWA	20/0504Z TENFLARE 180 FLUX UNITS 20/0437Z DURATION 6 MINUTES
21 NOVEMBER 1980	PRESTO BOULDER	21/1057Z TENFLARE 340 FLUX UNITS 21/0805Z DURATION 32 MINUTES
	PRESTO TOYOKAWA	21/0657Z TENFLARE 230 FLUX UNITS 21/0633Z DURATION 30 MINUTES
23 NOVEMBER 1980	PRESTO TOYOKAWA	23/0050Z TENFLARE 120 FLUX UNITS 22/0528Z DURATION 27 MINUTES

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Message serial number	Date of issue	Date of observation	Wolf number	10 cm solar flux	A index	Active Regions: Location Lat-Long	Flares: No. of Total	Flares: M	Flares: X	Outstanding events	Forecasts: Date	Forecasts: Location Lat-Long	Forecasts: Desc*	Alert Situations
306	01	31	287	215	020	S18W46	2	0	0		01	S18W46	E	SOLQUIET
						N18W35	4	0	0			N18W35	E	MAGQUIET
						S05W31	2	0	0			S05W31	E	
						N13W21	3	0	0			N13W21	Q	
						N20W21	0	0	0			N20W21	Q	
						N08W08	2	0	0			N08W08	E	
						N16W04	0	0	0			N16W04	Q	
						N30E25	1	0	0			N30E25	E	
						N20E28	0	0	0			N20E28	Q	
						N22E40	7	0	0			N22E40	Q	
						N03E49	4	0	0			N03E49	E	
						N06E62	0	0	0			N06E62	Q	
						N12E71	4	0	0			N12E71	E	
307	02	01	279	230	019	S17W58	3	0	0		02	S17W58	E	SOLQUIET
						N19W49	0	0	0			N19W49	E	MAGQUIET
						S04W45	1	0	0			S04W45	E	
						S13W36	5	0	0			S13W36	Q	
						N18W24	1	0	0			N18W24	Q	
						N07W20	0	0	0			N07W20	E	
						N16W17	1	0	0			N16W17	E	
						N31E10	1	0	0			N31E10	E	
						N18E19	0	0	0			N18E19	Q	
						N22E28	12	0	0			N22E28	E	
						N03E36	7	0	0			N03E36	Q	
						N06E53	0	0	0			N06E53	Q	
						N12E58	4	1	0			N12E58	E	
						S14E65	5	0	0			S14E65	Q	
						S26E70	0	0	0			S26E70	Q	
308	03	02	285	238	006	S18W72	4	0	0		03	S18W72	E	SOLALERT 03/05
						N19W63	1	0	0			N19W63	E	MAGQUIET
						S04W58	2	0	0			S04W58	Q	
						N14W49	0	0	0			N14W49	E	
						N07W34	1	0	0			N07W34	E	
						N16W31	0	0	0			N16W31	Q	
						N30W02	0	0	0			N30W02	E	
						N18E03	1	0	0			N18E03	Q	
						N22E15	8	0	0			N22E15	E	
						N03E22	3	1	0			N03E22	E	
						N06E38	0	0	0			N06E38	Q	
						N12E45	1	0	0			N12E45	A	
						S12E49	2	0	0			S12E49	E	
						S26E55	0	0	0			S26E55	Q	
309	04	03	274	246	006	S17W85	1	0	0	Presto Sydney	04	S17W85	Q	SOLALERT 04/05
						N19W77	1	0	0	03/0220Z Soflare		N19W77	Q	MAGQUIET
						S05W74	1	0	0	M3/2B N12E44		S05W74	E	
						N13W67	2	0	0	03/0204Z. Presto		N13W67	Q	
						N07W48	0	0	0	Toyokawa 03/0333Z		N07W48	Q	
						N17W46	0	0	0	100 Flux Units		N17W46	Q	
						N30W14	0	0	0	03/0145Z duration		N30W14	Q	
						N18W09	0	0	0	55 minutes. Presto		N18W09	Q	
						N22W00	7	0	0	Boulder 03/1423Z		N22W00	E	
						N03E08	6	2	0	Soflare M1/2B		N03E08	A	
						N06E25	0	0	0	N05E10 03/1355Z		N06E25	Q	
						N12E31	4	1	0	Duration 17 minutes		N12E31	E	
						S11E35	2	0	0			S11E35	E	
						S25E41	0	0	0			S25E41	Q	
310	05	04	290	261	014	S16W91	1	0	0		05	S16W91	Q	SOLALERT 05/08
						N14W80	0	0	0			N14W80	Q	MAGQUIET
						N08W62	1	0	0			N08W62	Q	
						S18W62	0	0	0			S18W62	Q	
						N18W58	1	0	0			N18W58	Q	
						N31W25	0	0	0			N31W25	Q	
						N19W21	0	0	0			N19W21	Q	
						N23W11	10	1	0			N23W11	E	
						N04W05	5	1	0			N04W05	A	
						N06E12	0	0	0			N06E12	Q	
						N12E18	8	1	0			N12E18	E	
						S11E22	4	0	0			S11E22	Q	
						S24E28	4	0	0			S24E28	Q	
						N05E32	0	0	0			N05E32	Q	
						S18E54	0	0	0			S18E54	Q	
311	06	05	303	272	007	N08W78	0	0	0	Presto Boulder	06	N08W78	Q	SOLALERT 06/09
						S19W75	2	0	0	05/1500Z Soflare		S19W75	Q	MAGALERT MINOR 07/09
						N19W71	0	0	0	X4/2B 05/1355Z		N19W71	Q	
						N31W41	0	0	0	S12E74 Duration		N31W41	Q	
						N23W26	2	0	0	25 minutes.		N23W26	E	
						N04W19	2	0	0			N04W19	E	
						N07W03	0	0	0			N07W03	Q	
						N12E05	8	2	0			N12E05	A	
						S10E09	2	0	0			S10E09	E	
						S24E15	0	0	0			S24E15	Q	
						N05E16	1	0	0			N05E16	Q	
						S19E38	3	0	0			S19E38	Q	
						S12E77	11	2	1			S12E77	Q	

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SUMMARY OF THE GEOALERT WWA MESSAGES

Message serial number	Date of issue	Date of observation	Wolf number	10 cm solar flux	A index	Active Regions Location Lat-Long	No. of Flares Total	M	X	Outstanding events	Forecasts Date	Location Lat-Long	Desc*	Alert Situations
312	07	06	283	230	009	S17W90	0	0	0	Presto Soflare	07	S17W90	Q	PROTON FLARE ALERT 07/09
						N23W37	10	0	0	X9/2B S16E72 06/		N23W37	E	MAGALERT 07/09
						N04W32	4	0	0	0352Z Duration 48		N04W32	E	
						N06W14	0	0	0	Minutes. Tenflare		N04W14	Q	
						N11W07	8	5	0	2400 Flux Units06/		N11W07	A	
						S10W04	2	0	0	0337Z Duration 60		S10W04	Q	
						S13E08	1	0	0	Minutes. Soflare		S13E08	Q	
						S19E28	5	1	0	X1/SB 06/1526Z		S19E28	E	
						S11E59	8	3	2	S11E59 Duration 40 Minutes. Soflare 06/1947Z N06W07 M5/2B Duration 59 Minutes.		S11E59	A	
313	08	07	297	227	010	N23W51	3	0	0	Presto Soflare X2/	08	N23W51	E	MAJOR FLARE ALERT 07/09
						N03W46	0	0	0	2B 07/0156Z N07W11		N03W46	Q	MAGALERT 08/09
						N06W28	1	0	0	Duration 55 Min.		N06W28	Q	
						N11W21	15	6	0	Tenflare 07/0204Z		N11W21	A	
						S11W17	3	0	0	1100 Flux Units		S11W17	Q	
						S13W06	0	0	0	Duration 14 Min.		S13W06	Q	
						S18E16	6	0	0	Soflare M8/2B 07/		S18E16	E	
						S10E46	16	4	0	1732Z N09W16 Duration 28 Min.		S10E46	A	
314	09	08	281	227	006	N23W64	2	0	0	Presto Soflare X3/	09	N23W64	E	MAJOR FLARE ALERT 09/10
						N03W64	0	0	0	2B N11W29 08/1334Z		N03W64	Q	MAGALERT MINOR 09/XX
						N07W41	1	0	0	Duration 10 Min.		N07W41	Q	
						N12W34	13	1	1	Tenflare 1075 Flux		N12W34	A	
						S18E01	6	0	0	Units 08/1335Z		S18E01	E	
						S10W31	4	0	0	Duration 16 Min.		S10W31	E	
						S10E33	14	2	0			S10E33	A	
						N07E65	0	0	0			N07E65	Q	
315	10	09	223	266	007	N23W79	1	0	0	Presto Soflare	10	N23W79	E	MAJOR FLARE ALERT 09/11
						N03W79	0	0	0	M1/2B S18E02		N03W79	Q	MAGALERT MINOR 09/10
						N06W56	1	0	0	09/0052Z Duration		N06W56	Q	
						N12W48	7	1	0	72 Minutes		N12W48	A	
						S11W44	3	0	0			S11W44	E	
						S19W14	1	1	0			S19W14	E	
						S10W08	0	0	0			S10W08	Q	
						S11E19	12	1	0			S11E19	A	
316	11	10	228	271	012	N03W90	0	0	0	Presto Boulder	11	N03W90	Q	SOLALERT 11/14
						N23W86	2	0	0	Soflare M8/2B		N23W86	E	MAGNIL
						N06W67	3	0	0	S12W54 10/1138Z		N06W67	Q	
						N12W61	12	2	0	Duration 64 Min.		N12W61	A	
						S11W59	6	1	0	Tenflare 520 Flux		S11W59	Q	
						S18W28	3	0	0	Units 10/1138Z		S18W28	E	
						S08W19	0	0	0	Duration 10 Min.		S08W19	Q	
						S13W09	0	0	0			S13W09	Q	
						S09W08	0	0	0			S09W08	Q	
						S11E08	8	1	0			S11E08	A	
						N18E74	0	0	0			N18E74	Q	
317	12	11	186	265	019	N06W81	2	0	0	Presto Soflare	12	N06W81	Q	SOLALERT 12/16
						N12W75	6	2	0	M9/2B N10W63 11/		N12W75	A	MAGALERT MINOR 12/13
						S11W74	1	1	0	0904Z Duration 45		S11W74	E	
						S19W41	3	0	0	Minutes. Soflare		S19W41	E	
						S11W32	0	0	0	M4/2B S11W70 11/		S11W32	Q	
						S11W06	16	6	0	1731Z Duration 30		S11W06	A	
						N17E61	0	0	0	Minutes. Tenflare 400 Flux Units 11/ 1723Z Duration 11 Minutes.		N17E61	Q	
318	13	12	187	246	016	N06W94	0	0	0	Presto Soflare	13	N06W94	Q	SOLALERT 13/16
						N12W90	9	0	1	X2/2B N10W72 12/		N12W90	A	MAGQUIET
						S10W88	2	0	0	0453Z.Tenflare		S10W88	E	
						S19W55	3	0	0	240 Flux Units 12/		S19W55	E	
						S12W43	0	0	0	0446Z Duration 20		S12W43	Q	
						S10W19	12	3	0	Minutes.		S10W19	A	
						N17E49	0	0	0			N17E49	Q	
						N17E76	0	0	0			N17E76	Q	
319	14	13	181	232	007	S18W70	0	0	0	Presto Tenflare	14	S18W70	E	SOLALERT 14/XX
						S12W32	7	3	0	150 Flux Units 13/		S12W32	A	MAGQUIET
						N19E33	0	0	0	0054Z Duration 15		N19E33	Q	
						S16E64	1	0	0	Minutes. Tenflare		S16E64	Q	
						S16E75	0	0	0	425 Flux Units 13/ 0405Z Duration 8 Minutes. Soflare M4/2B S16W32 13/ 1912Z Duration 41 Minutes.		S16E75	Q	
320	15	14	148	227	009	S18W82	0	0	0	Presto 14/1153Z	15	S18W82	E	SOLALERT 15/XX
						S11W45	17	4	0	SSC. Soflare M2/2B		S11W45	A	MAGALERT 16/XX
						N17E06	0	0	0	14/1539Z Soflare		N17E06	Q	
						N19E20	1	0	0	M6/1B 14/2347Z		N19E20	E	

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						S16E52	2	0	0	Tenflare 210 Flux		S16E52	Q	
						S17E63	0	0	0	Units 14/2347Z		S17E63	Q	
321	16	15	143	212	018	S11W58	9	5	1	Presto 15/1540Z	16	S11W58	A	SOLALERT 16/XX
						S16W39	1	0	0	Tenflare 358 Flux		S16W39	Q	MAGNIL
						N19E05	4	1	0	Units Soflare X2/1B		N19E05	E	
						S16E50	0	0	0	15/1626Z Tenflare 15/0700Z 130 Flux Units.		S16E50	Q	
322	17	16	128	195	015	S11W70	13	6	0	Presto 16/0052Z	17	S11W70	A	SOLALERT 17/XX
						N18W12	4	2	0	Tenflare 100 Flux		N18W12	Q	MAGQUIET
						N17E27	3	0	0	Units Soflare M2/1B		N17E27	E	
						S16E37	0	0	0	16/0112Z Soflare		S16E37	Q	
						N13E73	1	0	0	MB/2B 16/0906Z Tenflare 200 Flux Units 16/0928Z		N13E73	Q	
323	18	17	180	189	011	S12W84	5	1	0		18	S12W84	A	SOLALERT 18/19
						N16W29	0	0	0			N16W29	Q	MAGQUIET
						N18W25	4	1	0			N18W25	A	
						S15E05	0	0	0			S15E05	Q	
						N16E12	4	2	0			N16E12	E	
						S17E22	0	0	0			S17E22	Q	
						N10E45	1	0	0			N10E45	Q	
						N12E60	1	0	0			N12E60	E	
324	19	18	199	179	012	S14W95	0	0	0		19	S14W95	A	SOLALERT 19
						N20W31	1	1	0			N20W31	A	MAGQUIET
						S15W07	0	0	0			S15W07	Q	
						N16W01	6	1	0			N16W01	A	
						S17E09	0	0	0			S17E09	Q	
						S09E20	0	0	0			S09E20	Q	
						N09E31	6	1	0			N09E31	E	
						N12E48	3	2	0			N12E48	A	
						S20E78	0	0	0			S20E78	Q	
325	20	19	174	177	013	N18W50	1	0	0		20	N18W50	A	SOLALERT 20/21
						S14W22	1	0	0			S14W22	Q	MAGQUIET
						N16W13	5	0	0			N16W13	A	
						S17W03	0	0	0			S17W03	Q	
						N09E19	2	0	0			N09E19	E	
						N12E34	10	0	0			N12E34	A	
						S12E67	0	0	0			S12E67	Q	
						S18E67	0	0	0			S18E67	Q	
326	21	20	156	166	015	N18W65	0	0	0	Presto Boulder 20/	21	N18W65	E	SOLALERT 20/21
						S15W36	0	0	0	1408Z Tenflare 280		S15W36	Q	MAGQUIET
						N16W27	2	0	0	Flux Units 20/0805Z		N16W27	E	
						S17W16	0	0	0	Duration 9 Minutes		S17W16	Q	
						N10E05	0	0	0	Presto Toyokawa 20/		N10E05	A	
						N12E19	7	2	0	0504Z Tenflare 180		N12E19	A	
						S18E54	0	0	0	Flux Units 20/0437Z Duration 6 Minutes		S18E54	Q	
327	22	21	191	166	013	N17W79	0	0	0	Presto Boulder 21/	22	N17W79	Q	SOLALERT 22/XX
						N17W37	2	0	0	0805Z Tenflare 340		N17W37	E	MAGQUIET
						S17W30	0	0	0	Flux Units Duration		S17W30	Q	
						N10W08	1	0	0	32 Minutes. Presto		N10W08	E	
						N11E06	3	2	0	Toyokawa 21/0657Z		N11E06	A	
						S19E40	0	0	0	Tenflare 230 Flux		S19E40	Q	
						N14E56	0	0	0	Units Duration 30 Minutes.		N14E56	Q	
328	23	22	150	176	007	N17W53	1	0	0	Presto Toyokawa	23	N17W53	Q	SOLALERT
						S17W42	0	0	0	22/0528Z Tenflare		S17W42	Q	MAGQUIET
						N16W36	0	0	0	120 Flux Units		N16W36	Q	
						N10W22	7	0	0	Duration 27 Minutes		N10W22	E	
						N13W07	4	0	0			N13W07	A	
						S18E27	4	1	0			S18E27	E	
						N14E43	1	0	0			N14E43	Q	
329	24	23	194	172	008	N17W69	3	0	0		24	N17W69	Q	SOLNIL
						S17W56	0	0	0			S17W56	Q	MAGQUIET
						N17W50	2	0	0			N17W50	E	
						S08W41	0	0	0			S08W41	Q	
						N11W36	1	0	0			N11W36	E	
						N12W21	7	1	0			N12W21	E	
						S12E12	0	0	0			S12E12	Q	
						S18E14	1	0	0			S18E14	E	
						N13E30	1	0	0			N13E30	Q	
						N21E63	0	0	0			N21E63	Q	
330	25	24	226	180	010	S17W69	0	0	0		25	S17W69	Q	SOLQUIET
						N09W64	0	0	0			N09W64	Q	MAGQUIET
						N16W62	1	0	0			N16W62	Q	
						S08W56	1	0	0			S08W56	Q	
						N10W50	7	0	0			N10W50	E	
						N10W33	7	0	0			N10W33	E	

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						S13W01	0	0	0			S13W01	Q	
						S18E01	1	0	0			S18E01	Q	
						N14W16	1	0	0			N14W16	Q	
						S06E29	0	0	0			S06E29	Q	
						N21E32	0	0	0			N21E32	Q	
						S31E37	0	0	0			S31E37	Q	
						N21E51	0	0	0			N21E51	Q	
331	26	25	226	183	014	S16W83	0	0	0		26	S16W83	Q	SOLQUIET
						N10W78	0	0	0			N10W78	Q	MAGALERT MINOR 26/XX
						N16W78	1	0	0			N16W78	Q	
						S08W69	1	0	0			S08W69	E	
						N10W63	1	0	0			N10W63	E	
						N11W47	1	0	0			N11W47	E	
						S13W14	0	0	0			S13W14	Q	
						S18W13	0	0	0			S18W13	Q	
						N14E04	2	0	0			N14E04	Q	
						S06E15	0	0	0			S06E15	Q	
						N21E16	0	0	0			N21E16	Q	
						S22E25	0	0	0			S22E25	Q	
						N21E36	0	0	0			N21E36	Q	
						N15E62	0	0	0			N15E62	Q	
332	27	26	222	195	020	N17W89	0	0	0		27	N17W89	E	SOLQUIET
						S07W84	0	0	0			S07W84	E	MAGALERT MINOR 27/XX
						N09W76	2	0	0			N09W76	A	
						N09W59	0	0	0			N09W59	E	
						S12W30	0	0	0			S12W30	Q	
						S17W27	0	0	0			S17W27	Q	
						N13W08	0	0	0			N13W08	Q	
						S12W06	0	0	0			S12W06	Q	
						S06W00	0	0	0			S06W00	Q	
						N19E00	0	0	0			N19E00	Q	
						S33E12	0	0	0			S33E12	Q	
						N20E23	0	0	0			N20E23	Q	
						N14E45	0	0	0			N14E45	Q	
						N22E70	1	0	0			N22E70	Q	
						S12E77	0	0	0			S12E77	Q	
333	28	27	193	190	016	N10W84	0	0	0		28	N10W84	E	SOLQUIET
						N07W72	1	0	0			N07W72	E	MAGNIL
						S13W42	0	0	0			S13W42	Q	
						S17W39	0	0	0			S17W39	Q	
						S11W19	1	0	0			S11W19	E	
						N22W12	0	0	0			N22W12	Q	
						S33E01	0	0	0			S33E01	Q	
						N15E03	2	0	0			N15E03	E	
						N21E08	1	0	0			N21E08	Q	
						N15E32	0	0	0			N15E32	Q	
						N23E58	1	0	0			N23E58	E	
						S11E66	3	0	0			S11E66	E	
334	29	28	229	197	016	N07W87	1	0	0		29	N07W87	E	SOLQUIET
						S13W56	1	0	0			S13W56	Q	MAGQUIET
						S18W53	0	0	0			S18W53	Q	
						S11W32	0	0	0			S11W32	E	
						N21W26	1	0	0			N21W26	Q	
						S32W14	0	0	0			S32W14	Q	
						N16W09	2	0	0			N16W09	E	
						N21W04	0	0	0			N21W04	Q	
						N14E18	0	0	0			N14E18	Q	
						S07E19	0	0	0			S07E19	Q	
						N22E45	4	0	0			N22E45	E	
						S10E54	3	1	0			S10E54	E	
						N13E58	0	0	0			N13E58	Q	
335	30	29	206	220	013	S19W65	0	0	0		30	S19W65	Q	SOLQUIET
						S11W47	0	0	0			S11W47	Q	MAGQUIET
						N20W38	0	0	0			N20W38	Q	
						S32W26	0	0	0			S32W26	Q	
						N16W23	2	0	0			N16W23	E	
						N19W16	1	0	0			N19W16	Q	
						N15E05	2	0	0			N15E05	E	
						N22E30	2	0	0			N22E30	E	
						N15E42	1	0	0			N15E42	Q	
						S10E42	5	0	0			S10E42	E	
336	01	30	254	223	014	S20W79	0	0	0		01	S20W79	Q	SOLQUIET
						N20W53	2	0	0			N20W53	Q	MAGQUIET
						S34W38	2	0	0			S34W38	Q	
						N15W36	0	0	0			N15W36	E	
						N20W34	2	0	0			N20W34	Q	
						N14W08	2	0	0			N14W08	E	
						N19E09	0	0	0			N19E09	Q	
						N24E19	0	0	0			N24E19	E	
						S10E28	4	0	0			S10E28	E	
						N14E30	0	0	0			N14E30	Q	
						S10E38	1	0	0			S10E38	Q	
						S20E67	2	0	0			S20E67	Q	
						S25E76	0	0	0			S25E76	Q	

* Q=Quiet E=Eruptive A=Active P=Proton C=Caution D=Doubtful O.G.=Other Groups MF=Major Flare

RELATIVE SUNSPOT NUMBERS

ZURICH, R_z

1979 FINAL 1980 PROVISIONAL

DAY	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV
1	122	153	208	101	105	121	152	101	78	208	151	103
2	156	158	167	160	145	149	124	100	63	226	135	219
3	167	148	185	151	133	140	128	97	65	232	139	204
4	218	173	182	136	123	166	141	85	65	233	121	211
5	232	190	178	130	154	192	150	96	53	188	96	201
6	206	207	215	132	105	145	131	98	72	179	116	172
7	212	210	248	120	200	147	149	97	64	136	135	175
8	262	225	230	101	199	157	156	87	90	140	101	201
9	288	262	172	103	229	168	164	78	125	108	106	179
10	260	224	140	69	214	144	168	86	130	119	235	158
11	242	245	148	67	245	142	172	87	101	125	260	144
12	261	210	135	70	257	143	166	98	174	128	234	128
13	235	181	131	71	259	150	161	105	172	133	197	103
14	230	178	146	68	283	166	136	128	193	100	232	108
15	225	146	160	52	182	157	129	161	192	83	209	92
16	215	166	163	36	154	148	134	198	196	98	187	112
17	188	160	132	67	126	173	129	211	198	93	173	109
18	151	130	122	63	127	215	146	241	195	114	150	113
19	138	118	129	119	134	218	166	213	185	137	137	125
20	126	115	139	108	173	230	179	212	179	150	167	112
21	124	121	114	105	143	233	191	217	152	118	155	107
22	111	123	99	130	122	244	196	201	139	147	164	119
23	116	124	108	149	95	246	190	184	154	158	148	112
24	138	128	122	175	112	256	193	155	122	178	127	128
25	143	107	121	176	139	229	179	151	109	168	123	127
26	116	127	152	191	171	220	166	138	101	209	119	148
27	93	128	175	205	156	223	185	117	98	231	134	154
28	98	138	197	221	149	198	188	127	124	181	136	167
29	121	122	181	191	145	178	149	118	158	166	173	148
30	139	145		182	138	150	97	108	184	149	178	153
31	135	174		183		138		81	194		167	
MEAN	176.3	162.2	159.3	126.5	166.6	179.7	157.2	135.8	135.4	154.5	162.9	146.5

1979 YEARLY MEAN = 155.4

DAILY SOLAR FLUX AT 2800 MHz
OTTAWA ARO

FLUX ADJUSTED TO 1 A.U., S_a

1979 1980

DAY	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV
1	161.9	189.1	212.6*	175.7	181.9	218.5	191.2	160.0*	131.9	213.2*	171.1	226.3
2	172.0*	199.9	217.9	172.9	181.1*	223.0	184.0	154.9	131.8	224.5*	167.9*	234.2
3	195.1*	211.9*	225.7	170.2*	176.1	221.2	178.8	147.7	133.2	232.1	174.1	241.6
4	221.0	212.4*	231.7	172.7*	184.3*	223.1*	181.5	146.7	130.9	225.1	175.2	249.9*
5	223.4*	207.7	218.9	171.8	209.7*	221.9	178.4	152.5*	132.6	215.6*	182.6	263.3*
6	223.4	222.1	221.7	169.4	238.4*	203.5	172.4	150.1	143.2*	210.9	185.3*	273.9*
7	222.6	220.0	223.9*	166.3	236.1*	203.4	165.7*	152.5	142.3	213.0	198.7*	272.7
8	228.9*	228.1*	218.7	164.9	241.7	208.2*	172.4*	152.8	146.4	200.9	212.1*	266.2*
9	232.4	240.9*	208.2*	161.3	244.7*	193.6	174.3*	155.2	156.5	189.7	223.4*	255.4*
10	230.3	253.0*	204.6*	153.9	249.0	191.1	176.1	162.3*	173.5	188.7	232.7	257.2*
11	230.6*	255.7*	213.7	147.8	249.9	191.4*	182.9	173.3	184.1	188.1	240.7	256.8*
12	232.3	245.1*	213.7	138.6	245.6	189.5	189.3*	178.8	189.6	178.9	247.8*	233.2*
13	231.7	221.6	217.9	144.6	232.8	192.9	186.5	196.8	193.3*	171.9	253.3*	226.8
14	238.3	203.8	201.8	141.2	226.3	202.9	188.8*	209.7	191.7*	163.4	251.1	218.8*
15	231.8	200.0	201.2*	139.3	206.1*	199.8	186.4	218.4	191.9	153.8	237.8	205.2*
16	216.3	188.6	200.2	137.3	192.4	202.9*	193.3	235.4*	195.7	159.6	214.9	191.1
17	202.2	186.9	182.8*	142.9	191.9	207.5*	197.4	250.2*	197.7*	158.0	201.1	181.6*
18	187.4	177.5	180.8*	147.4	201.4	214.3*	207.6	249.8*	204.3*	154.4	200.6	174.9
19	183.8	164.4	177.3	162.3	214.5*	234.2	219.8*	255.2*	201.4	160.1*	203.3	172.4
20	180.8*	156.5	174.7	162.1	215.8	244.7*	227.9*	258.8	193.8	167.5	200.5	161.6
21	176.7*	153.4	169.6	162.4	207.7	252.6	228.8	254.8	194.1	159.6	204.2	161.8
22	175.3	158.2*	167.3	162.5	199.2	276.6	250.8*	248.7	178.3*	178.6	205.3*	171.4
23	160.6	166.7	160.1	172.4*	186.2	289.5	251.5	235.1	174.1	188.7*	196.1	167.2
24	160.2	171.1*	157.2*	172.4	186.3	290.2	245.9*	222.2	164.3*	191.3	192.5	174.9*
25	162.8	171.3*	165.7	182.5*	185.9	292.8	238.8*	206.4	153.8*	183.8	182.9	176.4*
26	159.7	178.8*	169.8	185.2	186.6	284.2	226.3	197.4	154.6	184.3	180.3*	189.6
27	153.6*	198.6*	173.2	195.3*	200.6*	281.2*	212.6	188.4	159.3	183.2*	177.2	185.3
28	163.1	194.8	171.7*	203.5	203.7	280.8*	199.7*	169.5	168.3	185.2	178.2*	191.4
29	174.8	197.8	176.7*	199.9	203.5*	252.3	188.8	155.3	178.5	178.2*	186.4	206.1*
30	185.5	197.9	.	194.3*	200.9	222.7	183.4	143.3	191.4*	174.1	201.8	216.3
31	188.9	213.9*	.	187.2*	.	208.6	.	136.5	198.7*	.	211.5	.
MEAN	197.2	199.6	195.1	166.5	209.3	229.1	199.3	198.8	178.3	185.9	202.9	213.4

* adjusted for burst
A = interpolated data point

DAILY SOLAR INDICES

NOVEMBER 1980

	YEAR DAY	BARTELS 27-DAY CYCLE NUMBER	SUNSPOT NUMBERS		OBSERVED FLUX	SOLAR FLUX ADJUSTED TO 1 A.U.								
			R_Z	$R_{A'}$	OTTAWA 2800	AFGL 15400	AFGL 8800	AFGL 4995	OTTAWA 2800	AFGL 2695	AFGL 1415	AFGL 606	AFGL 410	AFGL 245
1	306	27	183	213	229.7	543	414	244	226.3	223	159		56	
2	307	1	218	212	238.0	542	419	249	234.2	226	160		61	
3	308	2	204	221	245.5	543	429	255	241.6	238	158		52	
4	309	3	211	202	254.2*	541	387	272	249.9*	249	167		48	
5	310	4	201	200	267.9*	557	414	294	263.3*	254	166		51	
6	311	5	172	198	278.9*	587	487	341	273.9*	289	175		50	
7	312	6	175	216	277.7	546	425	311	272.7	268	165		36	
8	313	7	201	204	271.4*				266.2*					
9	314	8	179	177	260.3*	537	426	289	255.4*	243	172		51	
10	315	9	158	165	262.4*	535	440	323	257.2*	242	165		46	
11	316	10	144	155	261.2*	569			256.0*		167		46	
12	317	11	120	124	238.2*	545	433	278	233.2*	240	159		44	
13	318	12	103	111	231.7	541	424	269	226.8	217	146		51	
14	319	13	108	123	223.5*	531	406	257	218.8*	211	148		47	
15	320	14	92	99	209.8*				205.2*					
16	321	15	112	123	195.4	522	361	219	191.1	185	132		42	
17	322	16	109	126	185.9*	520	350	207	181.6*	173	132		41	
18	323	17	113	125	179.0	470		195	174.9	163	122		39	
19	324	18	125	131	176.6	516	348	196	172.4	160	127		40	
20	325	19	112	124	165.6				161.6					
21	326	20	107	116	165.8	500	324	177	161.8	152	127		38	
22	327	21	119	116	175.8	523	335	191	171.4	149	127		42	
23	328	22	112	125	171.5	518	333	175	167.2	149	127		40	
24	329	23	128	131	179.6*	486	323	179	174.9*	155	129		38	
25	330	24	127	108	181.1*	505	336	192	176.4*	163	126		39	
26	331	25	140	138	194.7	542			189.6		134		42	
27	332	26	154	187	190.4	528	352	200	185.3	177	132		40	
28	333	27	167	114	196.7	398	309	192	191.4	173	143		40	
29	334	1	148	182	211.8*	529	369	219	206.1*	194	153		42	
30	335	2	153	201	222.5	513	373	231	216.3	202	159		61	
MEAN			146.5	155.6	218.1	525	384	238	213.4	204	147		45	

*ADJUSTED FOR BURST.

NOTE: DATA GAPS IN AFGL SAGAMORE HILL DATA ARE DUE TO EQUIPMENT PROBLEMS.

OBSERVED AND PREDICTED SOLAR ACTIVITY INDICES

	SUNSPOT NUMBERS						2800 MHz FLUX adjusted to 1 AU	
	Rz		Ra		Rs		Sa	
Date	Monthly Mean	Smoothed	Monthly Mean	Smoothed	Monthly Mean	Smoothed	Monthly Mean	Smoothed
Dec 77	43.2	57	42.8	55	44.8	61	98.9	114
Jan 78	51.9	61	48.8	59	52.6	66	106.1	118
Feb	93.6	64	90.9	61	91.1	69	141.8	122
Mar	76.5	70	73.9	66	89.5	73	140.3	125
Apr	99.7	77	97.5	72	100.5	79	150.5	130
May	82.7	83	79.6	78	99.7	84	149.7	135
Jun	95.1	89	88.0	84	96.5	90	146.8	141
Jul	70.4	97	58.1	92	84.2	97	135.2	147
Aug	58.1	104	48.1	98	64.3	104	116.9	153
Sep	138.2	108	128.1	103	110.4	108	159.6	158
Oct	125.1	111	116.0	105	107.7	111	157.1	160
Nov	97.9	113	92.8	107	98.1	113	148.2	162
Dec	122.7	118	121.0	111	121.6	116	170.0	165
Jan 79	166.6	124	164.4	116	150.2	119	196.5	168
Feb	137.5	131	136.8	123	153.0	124	199.1	172
Mar	138.0	136	132.5	128	136.7	128	184.0	176
Apr	101.5	141	95.8	133	127.0	133	175.0	180
May	134.4	147	121.8	139	120.4	139	168.9	186
Jun	149.5	153	136.4	144	138.9	144	186.0	191
Jul	159.4	156*	140.5	145	123.1	145	171.4	192
Aug	142.2	157*	125.1	144	129.2	145	177.0	192
Sep	188.4	157*	184.0	143	156.5	144	202.3	191
Oct	186.2	158*	178.2	144	171.7	145	216.4	192
Nov	183.3	163*	176.5	149	182.9	149	226.8	196
Dec	176.3	165*	157.6	152	151.0	152	197.2	199
Jan 80	162.2*	165*	146.7	153	153.6	154	199.6	200
Feb	159.3*	163*	131.0	154	148.7	155	195.1	200
Mar	126.5*	162*	111.0	153	117.8	153	166.5	200
Apr	166.6*	159*	148.7	151	164.0	152	209.3	198
May	179.7*	157*	176.5	149	185.4	151	229.1	197
Jun	157.2*	154(± 6)*	158.8	147	153.2	149	199.3	---
Jul	135.0*	151(±12)*	144.7	144	144.1	146	190.8	---
Aug	135.4*	149(±16)*	134.5	142	121.9	144	170.3	---
Sep	154.5*	147(±17)*	151.4	140	138.8	142	185.9	---
Oct	162.9*	146(±19)*	163.0	140	157.1	141	202.9	---
Nov	146.5*	145(±22)*	155.6	139	168.5	141	213.4	---
Dec	---	144(±26)*	---	138	---	140	---	---
Jan 81	---	144(±29)*	---	138	---	140	---	---
Feb	---	144(±29)*	---	138	---	139	---	---
Mar	---	141(±28)*	---	135	---	137	---	---
Apr	---	138(±28)*	---	132	---	134	---	---
May	---	135(±30)*	---	130	---	131	---	---

*An asterisk denotes a value of the observed monthly mean, or the observed 12-month running mean, or the predicted 12-month average that is based only on preliminary observations of the Zurich relative sunspot number (Rz). Parentheses enclose the 90% confidence limits. Hatched boxes enclose the most recent smoothed values; boxes not shaded enclose predicted values. Ra is the new symbol for R_A'.

SMOOTHED OBSERVED AND PREDICTED SUNSPOT NUMBERS
CYCLE 21

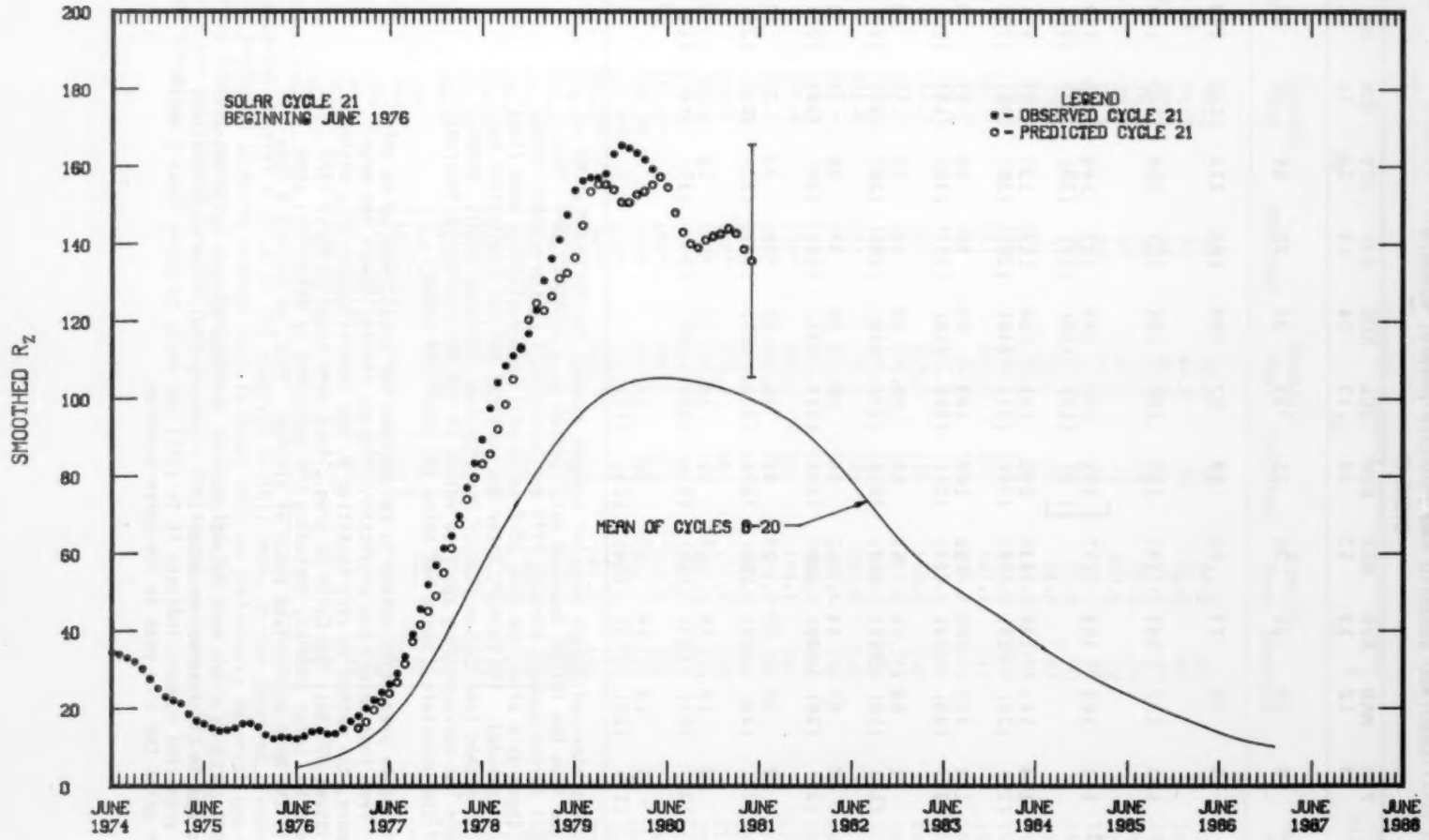
MONTH	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1976	15	13	12	13	13	12	13	14	14	13	14	15
1977	17	18	20	22	24	26	29	33	39	46	52	57
1978	61	65	70	77	83	89	97	104	108	111	113	118
1979	124	131	137	141	147	153	156	157	157	159	163	165*
1980	165*	163	162	159	157	154	151	149	147	146	145	144
						(6)	(12)	(16)	(17)	(19)	(22)	(26)
1981	144	144	141	138	135	132	131	130	129	127	124	121
	(29)	(29)	(28)	(28)	(30)	(30)	(31)	(30)	(30)	(30)	(30)	(29)
1982	117	114	111	109	106	104	100	95	90	85	81	78
	(27)	(26)	(25)	(24)	(23)	(21)	(19)	(18)	(18)	(16)	(15)	(16)
1983	74	71	69	66	64	61	59	58	56	55	55	54
	(16)	(17)	(18)	(19)	(20)	(21)	(23)	(24)	(26)	(28)	(29)	(29)
1984	52	50	47	44	42	41	40	39	37	36	34	32
	(30)	(29)	(28)	(29)	(30)	(31)	(31)	(31)	(30)	(29)	(28)	(27)
1985	31	30	29	29	28	27	26	25	24	23	22	22
	(27)	(27)	(26)	(26)	(26)	(25)	(23)	(22)	(22)	(23)	(24)	(24)
1986	21	20	19	18	17	15	14	13	13	12	12	12
	(24)	(24)	(24)	(23)	(22)	(21)	(20)	(19)	(18)	(17)	(15)	(14)
1987	12	12	13	14	15	16	17					
	(12)	(12)	(12)	(12)	(14)	(14)	(15)					

The table gives observed Zürich *smoothed* sunspot numbers for Cycle 21 up to the one calculated from the latest observed data, marked by a vertical bar. They are based on final Zürich numbers through 1979 and provisional Zürich numbers thereafter. Some of these data after the June 1976 value will change slightly when final data for 1980 are included. The numbers after the vertical bar are predictions by the McNish-Lincoln method (see *Explanation of Data Reports*, February 1980). Shown in parentheses are the corresponding absolute values of the 90% confidence interval, an indication of the uncertainty above and below the predicted number.

The McNish-Lincoln prediction method is recommended for predictions up to only one year ahead. From that point, the predictions regress rapidly toward the mean value. Furthermore, the method is very sensitive to the identification of a minimum epoch. In SGD issues 390-401, the Cycle 21 predictions were based on March 1976 as the minimum epoch. Later studies, including one published by Waldmeier, show that June 1976 is the more appropriate epoch of minimum. Thus, we adopted a June 1976 minimum.

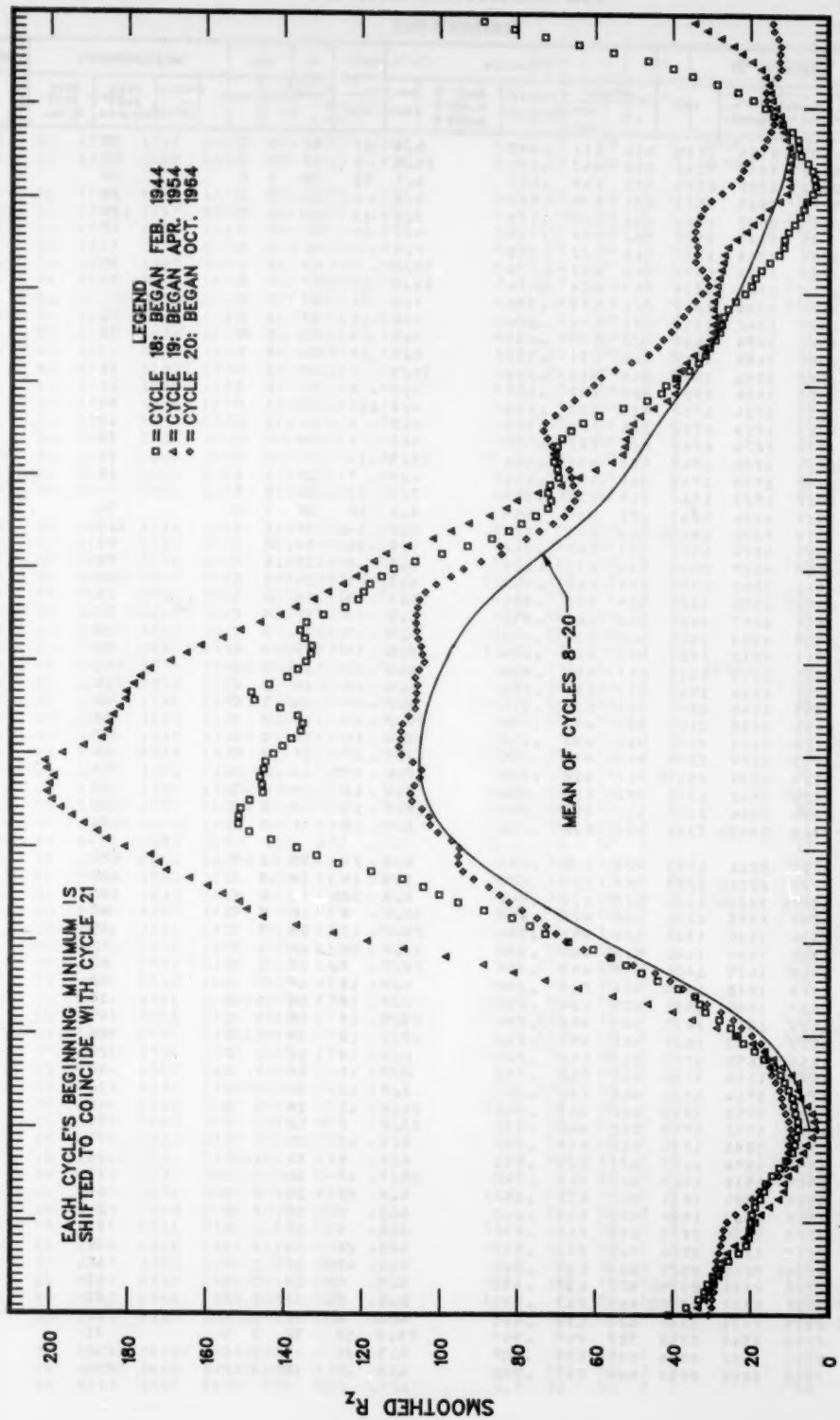
*MAXIMUM OF SUNSPOT CYCLE 21. The most recent observed smoothed sunspot value suggests the maximum occurred in the interval December 1979 - January 1980. The uncertainties, however, in the predicted numbers indicate it is still too early to claim these 2 months as the period in which the true peak in the curve occurred.

OBSERVED AND ONE-YEAR-AHEAD PREDICTED SMOOTHED SUNSPOT NUMBERS



SUPERPOSITION OF CYCLES 18, 19, AND 20

SUPERPOSITION OF CYCLES 18, 19, AND 20



Hα SOLAR FLARES

NOVEMBER 1980

OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS
	DAY	START	MAX. PHASE	END	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	HALE PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR. AREA Sq. Deg.	
LEAR	01	0102	0104	0119	N16	E71	.943		6.4	17	SF	3	C		18		
LEAR	01	0236	0237	0241	S16	W47	.775		28.6	5	SF	3	C		22		
LEAR	01	0321	0321	0339	N21	E40	.672		4.1	18	SN	3	C		19		
LEAR	01	0515	0519	0521	N21	E39	.660		4.1	6	SN	3	C		29		
LEAR	01	0519	0522	0530	N30	E25	.571		3.1	11	SN	3	C		128		
LEAR	01	0606	0610	0620	N02	E46	.719		4.7	14	SF	3	C		37		
RAMY	01	1315	1320	1322	S12	E72	.958		7.0	7	SF	3	C				
RAMY	01	1316	1321	1324	S16	W53	.831		28.6	8	SF	3	C		26		
RAMY	01	1319	1326	1334	N13	W28	.484		30.5	15	SF	3	C		31		
RAMY	01	1324	1340	1348	S11	E72	.958		7.0	24	SF	3	C				
RAMY	01	1337	1342	1353	N01	E40	.644		4.6	16	SF	3	C		22		
RAMY	01	1342	1354	1411	N22	E36	.630		4.3	29	SN	3	C		33		
RAMY	01	1349	1409	1417	S12	E71	.953		6.9	28	SN	3	C				
RAMY	01	1502	1506	1509	N15	W12	.273		31.7	7	SF	3	C		26		
RAMY	01	1503	1506	1511	N02	E42	.669		4.8	8	SF	3	C		40		
HOLL	01	1615	1734	1758	N23	E33	.600		4.2	103	SN	3	C		96		
RAMY	01	1718	1719	1722	S11	E60	.880		6.2	4	SF	3	C		11		
RAMY	01	1734	1734	1741	N21	E31	.565		4.1	7	SN	3	C		39		
HOLL	01	1735	1735	1749	N13	W32	.541		30.3	14	SF	3	C		21		
HOLL	01	1738	1738	1745	N01	E39	.631		4.7	7	SF	3	C		19		
HOLL	01	1812	1833	1844	S10	E72	.957		7.2	32	SN	3	C				
HOLL	01	1817	1834	1843	N22	E30	.559		4.0	26	SF	3	C		34		
RAMY	01	1819	1830	19130	N03	E39	.629		4.7	540	SF	3	C		122		
HOLL	01	1825	1826	1901	N03	E40	.642		4.8	36	SN	3	C		50		
PALE	01	1826	1827	1834	N04	E39	.628		4.7	8	SF	3	C		28		
HOLL	01	1841	1842	1845	N18	E60	.867		6.3	4	SN	3	C		15		
HOLL	01	1856	1856	1905	N14	E62	.881		6.4	9	SN	3	C		23		
PALE	01	1857	1857	1909	N10	E64	.896		6.6	12	SF	3	C		23		
HOLL	01	1908	1913	1925	N23	E33	.600		4.3	17	SF	3	C		33		
HOLL	01	1911	1912	1925	N12	W29	.495		30.6	14	SN	3	C		80		
HOLL	01	1916	1919	1948	N17	E64	.898		6.6	32	1B	3	C		191		
PALE	01	1917	1920	1945	N13	E62	.881		6.5	28	1B	3	C		214		
HOLL	01	1943	1946	2008	N03	E38	.615		4.7	25	SN	3	C		44		
HOLL	01	2108	2108	2127	S05	W42	.682		29.7	19	SF	3	C		18		
HOLL	01	2118	2122	2132	N14	W33	.558		30.4	14	SF	3	C		22		
HOLL	01	2153	2159	2230	N19	W16	.365		31.7	37	SF	3	C		65		
HOLL	01	2330	2332	23470	N13	W18	.338		31.6	170	SN	2	C		88		
HOLL	01	2338	2342	2356	N20	E26	.496		3.9	18	SN	2	C		55		
HOLL	01	2338	2354	2357	S17	W56	.860		28.8	19	SF	3	C		26		
PALE	01	2340	2343U	2352	N22	E26	.511		3.9	12	SF	3	C		30		D
LEAR	02	0207	0211	0230	N20	E25	.484		4.0	23	SB	3	C		128		
PALE	02	0208	0211U	0222	N21	E24	.480		3.9	14	SN	3	C		106		
ATHN	02	1057E	11C0U	1135	N22	E20	.442		4.0	380	SB	2	C		127		
RAMY	02	1242	1250	1251	N06	W28	.468		31.4	9	SF	3	C		47		
RAMY	02	1304	1306	1316	S04	W51	.784		29.7	12	SN	3	C		79		
RAMY	02	1345	1420	1440	S18	W65	.926		28.7	55	SN	3	C		72		
HOLL	02	1419	1419	1426	S20	W59	.889		29.2	7	SB	2	C		47		
RAMY	02	1518	1518	1529	N28	E18	.488		4.0	11	SF	3	C		82		
HOLL	02	1603	1605	1621	N25	E24	.515		4.5	18	SN	3	C		38		
HOLL	02	1615	1617	1633	S05	W51	.786		29.9	18	SF	3	C		49		
RAMY	02	1621	1623	1631	N18	W57	.842		29.4	10	SN	3	C		96		
HOLL	02	1655	1655	1705	N16	E48	.749		6.3	10	SB	3	C		20		
RAMY	02	1655	1656	1706	N15	E48	.748		6.3	11	SB	3	C		42		
RAMY	02	1708	1714	1721	N18	E06	.257		3.2	13	SF	3	C		30		
RAMY	02	1749	1752	1800	S16	W69	.946		28.6	11	SN	3	C		48		
HOLL	02	1752	1752	1759	S17	W66	.931		28.8	7	SN	3	C		30		
HOLL	02	1753	1801	1836	S11	E55	.837		6.9	43	SF	3	C		31		
HOLL	02	1852	1854	1857	N23	E25	.508		4.7	5	SF	3	C		26		
HOLL	02	1905	1910	1922	S17	W68	.942		28.7	17	SN	3	C		30		
HOLL	02	1908	1915	1931	N04	E21	.357		4.4	23	SN	3	C		47		
HOLL	02	1947	1947	1956	N23	E19	.442		4.2	9	SN	3	C		24		
HOLL	02	2230	2230	2235	S10	E49	.776		6.6	5	SF	3	C		20		
HOLL	02	2230	2241	2258	N05	E18	.308		4.3	28	SN	3	C		31		
LEAR	02	2236E	2248	2325	N04	E19	.325		4.4	490	SF	2	C		48		
HOLL	02	2330	2338	23390	N22	E17	.410		4.3	90	SN	2	C		43		
HOLL	02	2337	2337	23390	N09	E47	.730		6.5	20	SF	2	C		22		
PALE	02	2339	2339	2345	N23	E18	.431		4.3	6	SF	2	C		27		
LEAR	02	2346	2348	2358	S17	W69	.947		28.8	12	SF	3	C		11		
PALE	02	2355	0002	0026	N05	E18	.308		4.3	31	1B	2	C		208		D
LEAR	02	2356	0002	0023	N04	E17	.292		4.3	27	1B	3	C		256		

Hα SOLAR FLARES

NOVEMBER 1980

OBSERVATORY	OBSERVED UT				LOCATION					DURATION — MIN.	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS
	DAY	START	MAX. PHASE	END	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	HALE PLAGE REGION	CMP. DAY			COND.	TYPE	TIME — UT	MEAS. AREA Mil. of Disk	CORR. AREA Sq. Deg.	
WEND	03	1206	1207	1219	N04	E12	.207		4.4	13	SN		C	1207	44	.5	
WEND	03	1352	1402	1431	N05	E13	.225		4.6	39	SB		C	1402	163	1.7	E
ATHN	04	1104	1107	1113E	N20	E02	.276		4.6	32	SB	3	C		111		D
ATHN	04	1245	1247	1254D	N04	E03	.052		4.8	90	SB	3	C		190		D
RAMY	04	1246	1248	1311	N06	W02	.048		4.4	25	1B	3	C		253		D
ATHN	04	1337	1340	1350	N13	E30	.514		6.8	13	SB	3	C		32		D
RAMY	04	1352	1359	1406	S11	E30	.551		6.8	14	SF	3	C		33		
RAMY	04	1429	1508	1649	N22	W09	.341		3.9	140	1B	3	C		247		D
HOLL	04	1506E	1508	1545D	N23	W08	.349		4.0	390	1B	3	C		250		
RAMY	04	1618	1619	1626	S10	E26	.492		6.6	8	SF	3	C		62		
HOLL	04	1625	1626	1629D	N04	W06	.104		4.2	40	SN	3	C		41		
RAMY	04	1626	1630	1646	N05	W07	.123		4.2	20	SN	3	C		78		
HOLL	04	1710	1710	1736	N04	W02	.035		4.6	26	SN	3	C		81		
HOLL	04	1813	1816	1822	S11	E26	.499		6.7	9	SN	3	C		93		
HOLL	04	1831	1832	1840	N21	W08	.319		4.2	9	SN	3	C		39		
PALE	04	1954	1957	2006	N16	E17	.350		6.1	12	SF	3	C		70		
PALE	04	2006	2007	2015	N25	W06	.370		4.4	9	SF	3	C		23		
LEAR	04	2226	2227	2235	N08	W59	.855		31.5	9	SF	3	C		34		
LEAR	04	2249	2254	2303	S19	E56	.864		9.2	14	SF	3	C		23		
LEAR	04	2249	2301	2308	N15	E16	.328		6.2	19	SF	3	C		34		
LEAR	05	0009	0010	0016	N10	E23	.400		6.7	7	SN	3	C		44		
LEAR	05	0119	0121	0135	N01	W05	.101		4.7	16	SF	3	C		44		
LEAR	05	0247	0248	0257	S12	E21	.443		6.7	10	SB	3	C		69		C
LEAR	05	0441E	0447	0451	S07	E90	1.000		11.9	100	SF	3	C				
LEAR	05	0447	0508	0522	N15	E12	.278		6.1	35	1N	3	C		234		
LEAR	05	0807	0808	0829	N13	E20	.370		6.8	22	SN	3	C		25		
ATHN	05	0857E	0859	1005	S14	E85	.998		11.7	680	SB	3	C		64		D
LEAR	05	0903	0907	0910	S12	E78	.982		11.2	7	SN	3	C				
WEND	05	1031	1035	1044D	N02	W14	.244		4.4	130	SF		C	1035	44	.5	E
ATHN	05	1057	1059	1124	N03	W11	.191		4.6	27	SB	3	C		48		D
ATHN	05	1057	1106	1157	S14	E85	.998		11.8	60	SB	3	C		64		D
ATHN	05	1106	1109	1121	N13	E16	.312		6.7	15	SN	3	C		32		
ATHN	05	1309	1312	1316D	S14	E85	.998		11.9	70	SB	3	C		48		D
ATHN	05	1309	1312	1334	S14	E85	.998		11.9	25	SB	3	C		48		D
RAMY	05	1323	1324	1340	N11	E18	.328		6.9	17	SF	3	C		21		
RAMY	05	1333	1346	1348C	S06	E71	.949		10.9	150	1B	3	C		134		
ATHN	05	1346E	1349	1400D	S14	E85	.998		11.9	140	SB	3	C		80		D
HOLL	05	1414E	1421U	1508	S11	E77	.978		11.4	540	2B	3	C				
RAMY	05	1451	1453	1500	S18	W70	.953		31.4	9	SF	3	C		17		
HOLL	05	1603	1640	1640D	N13	E09	.219		6.3	370	1B	3	C		324		
HOLL	05	1603	1641	1740	N08	E11	.202		6.5	97	1B	3	C		435		D
HOLL	05	1607	1613	1718	S11	E13	.339		6.6	71	SN	3	C		66		
HOLL	05	1703	1705	1712	N04	E21	.358		7.3	9	SN	3	C		43		
HOLL	05	1711	1711	1727	S10	E74	.966		11.3	16	SN	3	C				
PALE	05	1805	1834	1849	S18	E45	.760		9.1	44	SN	2	C		41		
HOLL	05	1805	1957	2135	S18	E45	.760		9.1	210	SB	3	C		125		
PALE	05	1812	1812	1827	N25	W18	.457		4.4	15	SF	2	C		23		
HOLL	05	1838	1941	1942D	S09	E76	.974		11.5	640	SB	3	C				
HOLL	05	1838	2258	2324	S10	E70	.946		11.0	286	1B	3	C		107		
HOLL	05	1838	2237	2351C	N10	E07	.160		6.3	313D	1B	3	C		446		
PALE	05	1937	1944	1953	S09	E76	.974		11.5	16	SF	2	C				
PALE	05	1954	1955	2003	S18	E44	.750		9.1	9	SF	2	C		40		
HOLL	05	2141	2231	2351C	S18	E43	.740		9.1	130D	SB	3	C		87		
HOLL	05	2144	2158	2237	S18	W73	.967		31.4	53	SF	3	C				
HOLL	05	2157	2157	2225	N21	W23	.471		4.2	28	SN	3	C		27		
LEAR	05	2226	2234	2325	N10	E08	.173		6.5	59	1B	2	C		243		D
PALE	05	2226E	2234	2355D	N11	E07	.171		6.5	890	1B	2	C		212		D
LEAR	05	2230	2232	2235	S20	E44	.759		9.2	5	SF	3	C		23		
LEAR	05	2253	2302	2310	S12	E72	.958		11.4	17	SB	3	C				
HOLL	05	2259	2319	2335	N20	W21	.438		4.4	36	SN	3	C		70		
LEAR	05	2305	2311	2318	S18	W76	.978		31.3	13	SB	3	C				
HOLL	05	2306	2312	2320	S18	W73	.967		31.5	14	SB	3	C				C
LEAR	05	2317	2318	2334	N22	W22	.468		4.3	17	SF	3	C		27		
HOLL	05	2325	2332	2342D	S11	E68	.935		11.1	170	1N	3	C		117		
LEAR	05	2342	2344	2349	S13	E70	.948		11.2	7	SN	3	C		24		
LEAR	05	2343	2347	0013D	N10	E07	.160		6.5	300	SN	3	C		80		
MANI	06	0628E	0628U	0638C	S20	E41	.729		9.3	100	SN	2	C		50		
MANI	06	0650E	0652	0700D	N09	E08	.164		6.9	100	SN	3	C		100		
LEAR	06	0853	0855	0925	N24	W28	.554		4.3	32	SN	3	C		65		

Hα SOLAR FLARES

NOVEMBER 1980

OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION — MIN.	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS
	DAY	START	MAX. PHASE	END	APPROX. LAT.	APPROX. LNGT. DIST.	CENTRAL DISTANCE	HALE PLAGE REGION	CMP. DAY			COND.	TYPE	TIME — UT	MEAS. AREA Mill. of Disk	CORR. AREA Sq. Deg.	
LEAR	07	0110	0128	0134	S09	E65	.914		11.9	24	SN	3	C		62		
PALE	07	0113	0123	0139	N07	W11	.198		6.2	26	SF	3	C		57		
MANI	07	0115E	0115U	0137D	N07	W10	.182		6.3	22D	SF	2	C		40		
MANI	07	0115E	0115U	0137D	S09	E60	.876		11.6	22J	SF	2	C		30		
PALE	07	0126	0128	0144	S09	E59	.868		11.5	18	SF	3	C		36		
PALE	07	0140	0141	0149	S20	E32	.635		9.5	9	SF	3	C		49		
MANI	07	0143E	0144	01490	S19	E31	.617		9.4	6D	SF	2	C		50		
MANI	07	0148E	0150	0315	N10	W08	.175		6.5	87D	SF	3	C		100		
PALE	07	0156	0206	0315	N07	W11	.198		6.3	79	2B	3	C		1035		D
LEAR	07	0417	0425	0544	S11	E57	.854		11.5	87	1B	3	C		143		D
MANI	07	0450E	0450U	0502D	S10	E57	.852		11.5	12D	SN	3	C		50		
LEAR	07	0642	0643	0648	S11	E56	.845		11.5	6	SN	3	C		32		
LEAR	07	0724	0727	0734	S19	E25	.552		9.2	10	SF	3	C		29		
ISTA	07	0725E		0739	N09	W14	.256		6.3	14D	1B						F
LEAR	07	0727	0728	0806	N12	W12	.250		6.4	39	SB	3	C		134		D
ISTA	07	0732		0740	N06	W19	.327		5.9	8	SN						D
ATHN	07	0934E	0936	1003	S06	E59	.864		11.8	29D	SB	2	C		127		D
LEAR	07	0937	0937	0956	S10	E59	.869		11.8	19	SB	3	C		48		D
RAMY	07	1134	1135	1138D	S11	E50	.787		11.2	4D	SB	3	C		77		D
ATHN	07	1256E	1257	1300D	S08	E52	.801		11.4	4D	SB	3	C		95		D
ATHN	07	1255E	1257	1400D	N10	W15	.278		6.4	64D	1B	3	C		222		D
RAMY	07	1256	1304	1345	N08	W12	.219		6.6	49	1B	3	C		202		D
RAMY	07	1329	1335	1353	S09	E52	.803		11.5	24	SB	3	C		57		
RAMY	07	1413	1437	1438C	N07	W15	.263		6.5	25D	1B	3	C		295		
HOLL	07	1440	1540	1549	S07	E56	.838		11.8	69	SB	3	C		151		
RAMY	07	1441	1441	1442D	S07	E56	.838		11.8	1D	SB	3	C		58		
HOLL	07	1455	1646	1825D	S18	E19	.481		9.0	210D	SN	3	C		140		
HOLL	07	1612	1613	1622	N10	W14	.263		6.6	1D	SF	2	C		24		
HOLL	07	1642	1642	1650	N08	W18	.316		6.3	8	SN	3	C		22		
RAMY	07	1645	1650	1656	S18	E20	.490		9.2	11	SF	3	C		37		
HOLL	07	1647	1647	1652	S11	W13	.336		6.7	5	SF	3	C		24		
HOLL	07	1650	1656	1704	S09	E50	.782		11.5	14	SN	3	C		46		
HOLL	07	1705	1741	1817	S10	E50	.784		11.5	72	SN	3	C		70		
HOLL	07	1708	1729	1733	S11	W15	.358		6.6	25	SF	3	C		21		
HOLL	07	1724	1741	1825C	N09	W16	.288		6.5	61D	2B	3	C		818		
RAMY	07	1726	1742	1847	N08	W18	.316		6.4	81	2B	3	C		570		D
RAMY	07	1732	1736	1744	N20	W52	.800		3.8	12	SF	3	C		20		
RAMY	07	1739	1740	1748	S18	E20	.490		9.2	9	SF	3	C		24		
PALE	07	1742E	1743U	1901	N09	W16	.288		6.5	79D	1B	3	C		460		D
PALE	07	1744E	1801	1815	N04	W25	.422		5.9	31D	SF	3	C		62		
HOLL	07	1823	2210	2337C	S10	E44	.719		11.1	314D	1B	3	C		231		
HOLL	07	1923E	1927	1954	N20	W51	.790		4.8	31D	SF	3	C		41		
HOLL	07	1943	1948	1956	N10	W16	.293		6.6	13	SF	3	C		28		
HOLL	07	1955	2001	2012	S11	W15	.358		6.7	17	SN	3	C		72		
HOLL	07	2034	2034	2042	N08	W19	.332		6.4	8	SN	3	C		23		
PALE	07	2158	2205	2256	S08	E48	.758		11.5	58	SF	3	C		44		
HOLL	07	2224	2230	2337D	N09	W18	.319		6.6	73D	SB	3	C		99		D
PALE	08	0119	0120	0152	N09	W21	.367		6.5	33	SF	3	C		60		
LEAR	08	0120	0120	0158	N10	W19	.340		6.6	38	SB	3	C		99		
MANI	08	0123E	0125U	0132D	N11	W23	.406		6.3	9D	SB	3	C		20		
LEAR	08	0350	0356	0414	N09	W21	.367		6.6	24	SF	3	C		46		
LEAR	08	0351	0356	0418	S19	E14	.447		9.2	27	SF	3	C		72		
LEAR	08	0421	0422	0438	N11	W19	.345		6.8	17	SN	3	C		46		
LEAR	08	0422	0422	0428	S19	E15	.455		9.3	6	SF	3	C		33		
LEAR	08	0459	0503	0505D	N12	W24	.425		6.4	6D	SB	3	C		58		D
LEAR	08	0459	0500	0505	N22	W53	.814		4.2	6	SF	3	C		32		
LEAR	08	0717E	0718	0831	N10	W21	.371		6.7	74D	1B	3	C		277		D
ATHN	08	0720E	0722	0814	N12	W22	.396		6.7	54D	1B	3	C		286		D
LEAR	08	0735	0736	0759	N05	W32	.529		5.9	24	SF	3	C		28		
LEAR	08	0832	0832	0838	S11	E41	.686		11.4	6	SN	3	C		38		
LEAR	08	0902	0903	0930	S07	E45	.721		11.8	28	1N	3	C		198		
ATHN	08	0903E	0905	0920	S11	E49	.776		12.1	17D	1B	3	C		190		D
ATHN	08	1125	1126	1143	S15	E43	.725		11.7	18	SB	3	C		80		D
RAMY	08	1217	1219	1231	S11	W25	.483		6.6	14	SN	3	C		23		
RAMY	08	1217	1243	1243D	N08	W29	.487		6.3	26D	SB	3	C		131		
RAMY	08	1234	1241	1308	S09	E41	.679		11.6	34	SN	3	C		89		
RAMY	08	1333	1337	1538	N08	W28	.472		6.5	125	2B	3	C		900		
ATHN	08	1335E	1337	1400D	N13	W29	.502		6.4	25D	1B	3	C		350		
RAMY	08	1351	1354	1444	S10	E37	.633		11.4	53	SN	3	C		133		
RAMY	08	1447	1451	1452	S09	E37	.629		11.4	5	SB	3	C		108		
RAMY	08	1447	1454	1505	S09	E37	.629		11.4	18	1B	3	C		202		

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OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS
	DAY	START	MAX. PHASE	END	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	HALE PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mil. of Disk	CORR. AREA Sq. Deg.	
RAMY	08	1537	1539	1543	S09	E36	.616		11.4	6	SF	3	C		25		
RAMY	08	1614	1615	1623	N05	W34	.558		6.1	9	SF	3	C		35		
HOLL	08	1618	1620	1625	S08	E42	.688		11.8	7	SN	3	C		86		
RAMY	08	1618	1620	1625	S07	E41	.673		11.8	7	SN	3	C		79		
HOLL	08	1633	1638	1647	S08	E44	.712		12.0	14	SF	3	C		31		
HOLL	08	1652	1654	1658	N08	W36	.589		6.0	6	SN	3	C		61		
RAMY	08	1652	1653	1700	N07	W36	.588		6.0	8	SN	3	C		79		
HOLL	08	1728	1730	1737	S10	E36	.621		11.4	9	SF	3	C		23		
HOLL	08	1729	1729	1805	N09	W28	.474		6.6	36	SB	3	C		44		
RAMY	08	1730	1730	1758	N12	W31	.527		6.4	28	SN	3	C		43		
HOLL	08	1804	1806	1813	S10	E36	.621		11.5	9	SF	3	C		21		
HOLL	08	1815	1819	1826	S07	E44	.709		12.1	11	SN	3	C		28		
RAMY	08	1838	1840	1909	S10	W33	.582		6.3	31	SF	3	C		40		
HOLL	08	1839	1840	1910	S10	W32	.569		6.4	31	SN	3	C		43		
HOLL	08	1903	1908	1922	S18	E10	.404		9.5	19	SN	3	C		49		
RAMY	08	1908	1909	1919	S18	E09	.397		9.5	11	SF	3	C		36		
HOLL	08	1910	1914	1915	S12	W29	.542		6.6	5	SF	3	C		59		
RAMY	08	1929	1935	1942	S10	E35	.608		11.4	13	SF	3	C		25		
HOLL	08	1935	1935	1942	S19	E07	.402		9.3	7	SF	3	C		32		
RAMY	08	1942	1942	1953	S19	E06	.397		9.3	11	SF	3	C		57		
RAMY	08	1955	2008	2049	N21	W62	.888		4.2	53	1N	3	C		216		
HOLL	08	1956	2007	2039	S08	E43	.700		12.1	43	1B	3	C		208		D
RAMY	08	1957	2008	2036	S09	E35	.603		11.5	39	SB	3	C		174		D
HOLL	08	1959	2007	2009D	N23	W60	.875		4.3	100	1B	3	C		164		D
RAMY	08	2008	2008	2019	N12	W32	.541		6.4	11	SF	3	C		21		
RAMY	08	2047	2047	2056	S13	W26	.511		6.9	9	SF	3	C		32		
HOLL	08	2054	2054	2058D	N09	W30	.504		6.6	40	SB	3	C		21		D
HOLL	08	2109	2113	2131	N09	W30	.504		6.6	22	SB	3	C		54		
HOLL	08	2240	2247	2247D	S18	E02	.371		9.1	7D	1B	3	C		208		
MANI	08	2244E	2245U	2253D	S19	E03	.388		9.2	9D	SN	3	C		150		
LEAR	08	2250E	2252U	2317	S20	E04	.406		9.3	27D	SF	2	C		62		
PALE	08	2331	2332	2336	S08	E39	.651		11.9	5	SF	3	C		36		
HOLL	08	2331	2331	2336	S09	E39	.655		11.9	5	SB	3	C		38		D
LEAR	09	0052	0102	0204	S18	E02	.369		9.2	72	2B	3	C		529		
PALE	09	0056	0100	0131	S18	E04	.373		9.3	35	1N	3	C		216		
MANI	09	0057E	0059U	0105D	S19	E03	.387		9.3	80	SN	3	C		120		
PALE	09	0104	0105	0110D	S08	E33	.572		11.5	60	SF	3	C		23		
LEAR	09	0104	0106	0110	S11	E32	.574		11.4	6	SN	3	C		22		
PALE	09	0203E	0204U	0216	S08	E32	.558		11.5	130	SF	3	C		91		
LEAR	09	0203	0205	0214	S13	E37	.647		11.9	11	SB	3	C		143		D
PALE	09	0236	0239	0251	S07	E37	.621		11.9	15	SN	3	C		81		D
LEAR	09	0237	0241	0248	S10	E35	.607		11.7	11	SB	3	C		60		D
LEAR	09	0318	0322	0334	S19	E02	.385		9.3	16	SF	3	C		123		
LEAR	09	0355	0357	0415	S19	E03	.387		9.4	20	1N	3	C		228		
LEAR	09	0402	0407	0423	N11	W32	.538		6.8	21	SB	3	C		67		D
LEAR	09	0404	0407	0415	S11	E32	.574		11.6	11	SN	3	C		40		
LEAR	09	0427	0429	0442	S09	E36	.616		11.9	15	SB	3	C		151		D
LEAR	09	0534	0538	0541	N07	W38	.615		6.4	7	SF	3	C		36		
LEAR	09	0904	0908	0918	S09	E32	.563		11.8	14	SF	3	C		47		
LEAR	09	0934	0936	0945	S20	W00	.400		9.4	11	SF	3	C		42		
LEAR	09	0956	0958U	0958D	S18	W02	.369		9.3	20	SF	3	C		30		
RAMY	09	1230	1242	1308	S18	W04	.373		9.2	38	SN	3	C		51		
RAMY	09	1248	1307	1348	N07	W42	.668		6.4	60	SF	3	C		19		
RAMY	09	1329	1330	1348	S11	E27	.508		11.6	19	SN	3	C		97		
RAMY	09	1510	1510	1513	S11	E25	.482		11.5	3	SN	3	C		43		
RAMY	09	1526	1536	1602	S18	W01	.368		9.6	36	1N	3	C		219		
HOLL	09	1530	1538	1558	S18	W01	.368		9.6	28	SN	3	C		179		
RAMY	09	1621	1624	1633	S14	W44	.732		6.4	12	SN	3	C		39		
HOLL	09	1622	1624	1632	S15	W44	.736		6.4	10	SN	3	C		29		
HOLL	09	1711	1718	1752	S11	E21	.430		11.3	41	SN	3	C		95		
RAMY	09	1714	1719	1748	S11	E24	.469		11.5	34	SN	3	C		68		
RAMY	09	1912	1929	1957	N08	W46	.719		6.4	45	1N	3	C		257		
RAMY	09	1920	1922	1935	N04	W51	.776		6.0	15	SF	3	C		36		
RAMY	09	2003	2006	2015	S11	W49	.776		6.2	12	SF	3	C		23		
RAMY	09	2005	2007	2025	S17	W13	.410		8.9	20	SF	3	C		81		
HOLL	09	2145	2147	2202	N07	W47	.730		6.4	17	SN	3	C		61		
HOLL	09	2232	2234	2321	S17	W13	.410		9.0	49	SN	3	C		36		
HOLL	09	2310	2310	2313	S12	E22	.451		11.6	3	SN	3	C		27		
HOLL	09	2326	2329	2343D	N06	W49	.753		6.3	17D	SN	2	C		46		
HOLL	09	2339	2340	2343D	S17	W13	.410		9.0	40	SF	2	C		25		

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IM-POR-TANCE	OBS.		MEASUREMENTS			REMARKS
	DAY	START	MAX. PHASE	END	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	HALE PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR. AREA Sq. Deg.	
LEAR	10	0301	0308	0439	N10	W48	.721		6.7	98	SB	3	C		124		D
LEAR	10	0446	0450	0502	S10	W50	.783		6.4	16	SF	3	C		126		
LEAR	10	0613	0615	0627	S18	W16	.448		9.1	14	SF	3	C		61		
LEAR	10	0805	0812	1006D	S12	E14	.355		11.4	121D	1B	3	C		307		D
ATHN	10	0810E	0811U	0916D	S12	E16	.377		11.5	66D	1B	2	C		222		
LEAR	10	0823	0827	0842	N10	W49	.755		6.7	19	SF	3	C		117		
LEAR	10	0854	0855	0905	N10	W49	.755		6.7	11	SB	3	C		39		
RAMY	10	1127	1159	1200D	N12	W53	.800		6.5	33D	SB	3	C		100		D
RAMY	10	1140	1141	1321	S11	W54	.825		6.4	101	2B	3	C		740		D
RAMY	10	1141	1159	1229	N12	W53	.800		6.5	48	SB	3	C		100		D
RAMY	10	1307	1317	1416	N08	W53	.798		6.6	69	SB	3	C		95		D
RAMY	10	1336	1336	1348	S07	E16	.327		11.8	12	SN	3	C		68		
HOLL	10	1417E	1417U	1443	N15	W39	.644		7.7	26D	SF	2	C		56		
HOLL	10	1444	1452	1501	N09	W52	.787		6.7	17	SN	3	C		23		
RAMY	10	1450	1451	1502	N09	W52	.787		6.7	12	SN	3	C		24		
HOLL	10	1539	1551	1624	S11	W59	.870		6.2	45	SF	3	C		38		
RAMY	10	1559	1608	1611D	N08	W55	.818		6.5	12D	SB	3	C		93		
RAMY	10	1606	1606	1619	S12	E12	.334		11.6	13	SF	3	C		27		
HOLL	10	1608	1616	1802	N15	W50	.772		6.9	114	1N	3	C		189		
HOLL	10	1614	1616	1638	N06	W57	.837		6.4	24	SN	3	C		21		
HOLL	10	1624	1631	1634	S19	W18	.479		9.3	10	SF	3	C		35		
RAMY	10	1625	1628	1635	S19	W20	.498		9.2	10	SF	3	C		35		
HOLL	10	1731	1734	1756	N05	W59	.856		6.3	25	SF	3	C		20		
HOLL	10	1808	1808	1816	S11	E09	.292		11.4	8	SN	3	C		41		
HOLL	10	1929	1933	2022	S18	W22	.507		9.2	53	SF	3	C		60		
HOLL	10	1941	2008	2022	N04	W65	.905		5.9	41	SF	3	C		22		
HOLL	10	1959	2012	2017	N10	W57	.838		6.6	18	SF	3	C		17		
HOLL	10	2000	2008	2017	S12	W59	.871		6.4	17	SN	3	C		32		
HOLL	10	2025	2027	2047	S11	W56	.844		6.7	22	SF	3	C		21		
HOLL	10	2130	2138	2209	S10	W57	.851		6.6	39	SN	3	C		91		
HOLL	10	2145	2156	2159	N21	W87	.998		4.4	14	SF	3	C		10		
HOLL	10	2152	2157	2245D	N09	W57	.838		6.6	53D	SB	3	C		48		
PALE	10	2158E	2158	2214	N15	W55	.823		6.8	16D	SF	2	C		22		
HOLL	10	2211	2213	2217	S11	E06	.269		11.4	6	SB	3	C		95		
PALE	10	2213E	2214	2224D	S10	E06	.254		11.4	11D	SF	2	C		72		
PALE	10	2305	2305	2316	S10	E06	.254		11.4	11	SF	2	C		74		
HOLL	10	2326E	2328U	2333D	S12	E11	.324		11.8	7D	SN	3	C		39		
MANI	11	0216	0222	0241	N09	W60	.865		6.6	25	SF	3	C		80		
ATHN	11	0635E	0637U	0645	S12	E06	.283		11.7	10D	SN	3	C		127		
LEAR	11	0718	0725	0741	S12	E03	.269		11.5	23	SB	3	C		71		
ATHN	11	0718	0726	0756D	S12	E05	.278		11.7	38D	SB	3	C		159		
LEAR	11	0906	0908	0909D	N10	W63	.890		6.7	3D	1N	3	C		198		
LEAR	11	0906	0918	0958	N10	W63	.890		6.7	52	2B	3	C		705		
ATHN	11	0908	0915	0956	N13	W68	.926		6.3	48	1B	3	C		222		
WEND	11	0909	0917	1001	N16	W61	.877		6.8	52	2B		C	0917	306	6.8	I
ATHN	11	0910	0914	0947	S09	E03	.220		11.6	37	SN	3	C		175		
LEAR	11	0956	0956	1000	S16	W33	.615		8.9	4	SF	3	C		33		
LEAR	11	1001	1007U	1007D	S12	E02	.267		11.6	6D	1B	3	C		221		
WEND	11	1003	1016	1036D	S12	E00	.264		11.4	33D	1N		C	1016	275	2.9	F
ATHN	11	1006E	1008	1050	S11	E03	.253		11.6	44D	1B	3	C		382		
WEND	11	1007	1011	1041D	S11	E08	.282		12.0	34D	SB		C	1011	38	.4	EHZ
RAMY	11	1405	1447	1455D	S12	E00	.264		11.6	50D	1N	3	C		234		
HOLL	11	1430E	1725	1800	S12	E03	.269		11.8	210D	1B	3	C		313		D
WEND	11	1450E		1520D	S12	E00	.264		11.6	30D	1N		C	1456	200	2.1	FI
HOLL	11	1515	1520	1722	N10	W65	.905		6.8	127	1B	3	C		167		D
RAMY	11	1519	1520	1715	N11	W65	.905		6.8	116	1B	3	C		178		
RAMY	11	1545	1549	1549D	S12	W01	.265		11.6	4D	SB	3	C		99		
RAMY	11	1724	1725	1734	S13	E03	.286		12.0	10	1B	3	C		247		
HOLL	11	1725	1725	1729D	S12	E03	.269		12.0	4D	1B	3	C		313		D
RAMY	11	1729	1744	1745D	S11	W69	.940		6.6	16D	2B	3	C		477		D
HOLL	11	1731	1744	1925	S11	W71	.951		6.4	114	2B	3	C		404		D
PALE	11	1744E	1744	1823	S12	W69	.941		6.6	39D	1B	2	C		205		D
RAMY	11	1744	1748	1813	N03	W78	.978		5.9	29	SN	3	C		62		
RAMY	11	1859	1909	1923	N11	W69	.932		6.6	24	SN	3	C		36		
HOLL	11	1909	1909	1928	N11	W70	.938		6.5	19	SN	3	C		32		
HOLL	11	1921	2054	2157	S13	W03	.286		11.6	156	1B	3	C		268		D
HOLL	11	2042	2048	2049D	N10	W71	.944		6.5	7D	1N	3	C		222		
PALE	11	2053E	2055	2126D	S12	W03	.269		11.6	33D	SN	2	C		144		D
HOLL	11	2213	2222	2244	S19	W35	.657		9.3	31	SN	3	C		27		
HOLL	11	2238	2242	2252	S11	W07	.275		11.4	14	SN	3	C		26		
HOLL	11	2254	2259	2329D	S13	W05	.294		11.6	35D	SN	3	C		79		

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OBSERVATORY	OBSERVED UT				LOCATION					DURATION — MIN.	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS
	DAY	START	MAX. PHASE	END	APPROX. LAT.	APPROX. LONG. DIST.	CENTRAL DISTANCE	THALES PLAGE REGION	CMP. DAY			CONF.	TYPE	TIME — UT	MEAS. AREA Mil. of Disk	CORR. AREA Sq. Deg.	
PALE	11	2259	2302	2311	S13	W04	.289		11.7	12	SF	2	C		30		
LEAR	11	2325	2334	2335D	S19	W35	.457		9.4	100	1F	3	C		180		
LEAR	11	2338	0032	0039D	S12	W08	.297		11.4	61D	1N	3	C		225		
PALE	11	2341	2341	2359	S13	W04	.289		11.7	18	SF	2	C		88		
LEAR	12	0236	0252	0257D	S13	W06	.297		11.7	21D	1B	3	C		234		D
PALE	12	0243	0251	0309D	S12	W06	.281		11.7	26D	SN	2	C		152		D
LEAR	12	0446	0455	0455C	N10	W72	.950		6.8	9D	3B	3	C				
LEAR	12	0659	0706	0708C	S11	W05	.260		11.9	9D	SB	3	C		138		
RAMY	12	1153	1154	1207	N11	W78	.977		6.6	14	SN	3	C		67		
RAMY	12	1212	1213	1220	N09	W77	.973		6.7	8	SB	3	C				
ATHN	12	1213	1214	1229	N10	W81	.987		6.4	16	SB	3	C		48		D
RAMY	12	1213	1215	1224	S18	W48	.786		8.9	11	SF	3	C		20		
RAMY	12	1323	1324	1341	N11	W79	.980		6.6	18	SF	3	C		48		
RAMY	12	1338	1339	1412	S19	W43	.740		9.3	34	SF	3	C		20		
HOLL	12	1423E	1538	1552	S14	W10	.340		11.8	89D	SB	3	C		67		D
HOLL	12	1502	1511	1517	N07	W73	.955		7.2	15	SF	3	C		27		
RAMY	12	1504	1511	1514	N11	W80	.984		6.6	10	SF	3	C		25		
HOLL	12	1511	1514	1534	S17	W50	.802		8.9	23	SN	3	C		22		
HOLL	12	1520	1538	1539D	S14	W10	.340		11.9	19D	SB	3	C		67		
RAMY	12	1537	1538	1542	S15	W10	.354		11.9	5	SN	3	C		30		
HOLL	12	1642	1702	1718	S14	W11	.348		11.9	36	1B	3	C		275		D
RAMY	12	1658	1704	1716	S14	W12	.357		11.8	18	SB	3	C		186		
HOLL	12	1728	1738	1810	S13	W15	.375		11.6	42	SN	3	C		132		
RAMY	12	1731	1737	1801	S13	W15	.375		11.6	30	SN	3	C		115		
RAMY	12	1831	1834	1840	N07	W83	.992		6.5	9	SN	3	C				
HOLL	12	1832	1834	1843	N07	W75	.965		7.1	11	SN	3	C		67		
HOLL	12	1839	1845	1856	S13	W18	.409		11.4	17	SN	3	C		58		
PALE	12	1841	1842	1849	S11	W18	.389		11.4	8	SF	3	C		24		
HOLL	12	2102	2104	2205	S12	W19	.411		11.5	63	SN	2	C		99		
HOLL	12	2142	2144	2150	N07	W76	.969		7.2	8	SF	2	C				
HOLL	12	2228	2243	2325D	S13	W18	.409		11.6	57D	1B	2	C		374		
LEAR	12	2231	2243	2245D	S12	W19	.411		11.5	140	1B	3	C		215		
PALE	12	2232	2247	2321	S13	W18	.409		11.6	49	1N	3	C		207		
MANI	12	2306E	2307U	2316D	N12	W18	.340		11.6	10D	1N	3	C		200		
HOLL	12	2310	2317	2320	N09	W85	.996		6.6	10	SF	2	C				
PALE	12	2337	2338	2349	S11	W20	.414		11.5	12	SF	3	C		46		D
ISTA	13	0741		0805	S16	W61	.893		8.7	24	SN						E
ISTA	13	0753		0808	S09	W19	.382		11.9	15	SF						E
ISTA	13	0835		0909	S13	W26	.506		11.4	34	SB						E
PALE	13	1858	1935	2004	S12	W29	.538		11.6	66	1N	2	C		367		D
PALE	13	1858	1919	2004	S12	W29	.538		11.6	66	1N	2	C		279		D
HOLL	13	2229	2230	2242	S13	W31	.570		11.6	13	SF	1	C		27		
LEAR	14	0408	0409	0412D	N20	E31	.569		16.5	4D	1F	3	C		206		
LEAR	14	0641	0647	0653D	S12	W38	.651		11.4	12D	1N	2	C		182		
MANI	14	0650E	0650U	0655D	S11	W34	.596		11.7	50	SN	3	C		120		
WEND	14	0733E		0747	S15	W31	.582		12.0	14D	SN		C	0733	53	.7	
WEND	14	0839E		0901D	S17	W43	.730		11.1	22D	SF		C	0839	100	1.5	B
WEND	14	0924	0924	0935	S06	W39	.642		11.5	11	SF		C	0924	88	1.2	
WEND	14	1030		1044D	S15	W32	.594		12.0	14D	SF		C	1030	37	.5	D
WEND	14	1126	1126	1153	S15	W33	.606		12.0	27	SN		C	1126	38	.5	D
WEND	14	1253	1257	1308	S13	W41	.691		11.5	15	SN		C	1257	87	1.2	
WEND	14	1355E		1410D	S15	W34	.618		12.0	15D	SN		C	1403	50	.6	
RAMY	14	1357	1359	1457	S13	W41	.691		11.5	60	SN	3	C		70		
RAMY	14	1459	1544	1652	S16	W39	.682		11.7	113	2B	3	C		706		D
HOLL	14	1544	1544	1718	S17	W42	.720		11.5	94	2B	3	C		520		
HOLL	14	1617	1620	1632	N17	E57	.845		19.0	15	SN	2	C		16		
HOLL	14	1829	1850	1851D	S15	W44	.733		11.5	22D	1B	2	C		183		D
HOLL	14	2213	2216	2218D	S14	W43	.718		11.7	50	SB	3	C		75		
PALE	14	2352	2359	0046	S14	W48	.772		11.4	54	1B	3	C		315		
MANI	14	2355E	0000	0008D	S11	W44	.719		11.7	130	1N	2	C		240		
MANI	15	0727E	0727U	0742D	S12	W47	.755		11.8	150	SF	2	C		100		
RAMY	15	1302	1312	1357	N17	E07	.271		16.1	55	1B	3	C		211		D
ATHN	15	1310E	1314	1337	N19	E13	.351		16.5	27D	SB	2	C		48		D
RAMY	15	1336	1341	1445	S16	W56	.852		11.4	69	SB	3	C		136		D
ATHN	15	1339	1342	1400D	S15	W41	.699		12.5	21D	SB	2	C		95		D
RAMY	15	1358	1358	1406	N17	E07	.271		16.1	8	SF	3	C		23		
RAMY	15	1520	1521	1528D	S16	W48	.778		12.0	8D	SB	3	C		32		
RAMY	15	1540	1550	1731D	S12	W53	.816		11.7	111D	1B	3	C		455		D

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OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS
	DAY	START	MAX. PHASE	END	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	HALE PLAGE REGION	CMP. DAY	MIN.		CONF.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR. AREA Sq. Deg.	
RAMY	15	1802	1802	1826	S13	W55	.837		11.6	24	SB	3	C		52		
PALE	15	2352	2359	0001C	S14	W48	.771		12.4	90	1B	3	C		315		
MANI	16	0052E	0054	01030	S11	W58	.860		11.7	110	1N	3	C		180		
LEAR	16	0053	0057	00590	S15	W53	.823		12.1	60	1B	3	C		168		D
LEAR	16	0458	0507	05390	S12	W63	.901		11.5	410	1B	3	C		270		
MANI	16	0509E	0510	05110	S11	W58	.860		11.9	20	SF	3	C		120		
LEAR	16	0859	0904	0907C	N16	W06	.250		15.9	80	2B	3	C		863		
ATHN	16	0903E	0905	0940	N17	W03	.251		16.2	370	1B	3	C		206		
ATHN	16	1008	1009	1032	S12	W70	.946		11.2	24	SB	3	C		48		D
RAMY	16	1217	1217	1233	S17	W59	.878		12.1	16	SN	3	C		14		
RAMY	16	1330	1334	1417	S12	W63	.901		11.8	47	SN	3	C		85		
RAMY	16	1347	1356	1414	N16	W08	.266		16.0	27	SF	3	C		44		
RAMY	16	1352	1354	1402	N15	E76	.969		22.3	10	SN	3	C				
RAMY	16	1428	1429	14300	S14	W66	.924		11.7	20	SB	3	C		112		
RAMY	16	1517	1520	1524	S11	W72	.956		11.2	7	SF	3	C				
RAMY	16	1642	1648	1654	N16	E34	.587		19.2	12	SF	3	C		26		
RAMY	16	1735	1742	17430	S13	W65	.916		11.9	80	1N	3	C		218		D
RAMY	16	1735	1742	1752	S18	W60	.888		12.2	17	1N	3	C		218		D
PALE	16	2145	2157	2218	N16	E29	.522		19.1	33	SF	3	C		58		
PALE	16	2149	2150	2153	S11	W71	.951		11.6	4	SF	3	C		40		
PALE	16	2303	2304	2319	N16	E28	.509		19.1	16	SF	2	C		27		
LEAR	16	2357	0008	0011D	N17	W10	.298		16.2	140	1B	3	C		395		
MANI	17	0002E	0005	0012D	N18	W12	.331		16.1	100	1B	3	C		250		
LEAR	17	0004	0005	0009C	N17	E28	.515		19.1	50	SB	3	C		74		D
PALE	17	0012	0014	0055	N17	W10	.298		16.3	43	SN	2	C		162		D
LEAR	17	0543	0551	0553D	N17	E27	.502		19.3	100	SB	3	C		128		D
MANI	17	0550E	0550U	0606	N18	E26	.496		19.2	160	SF	2	C		160		
LEAR	17	0649	0649	0654D	S11	W73	.961		11.8	50	SB	3	C		35		
MANI	17	0650E	0650U	0658D	S11	W74	.965		11.7	80	SF	2	C		20		
LEAR	17	0753	0818	08190	N19	W14	.364		16.3	260	1B	3	C		217		D
ATHN	17	0755	0757	0910	N17	W16	.363		16.1	75	1B	3	C		286		
MANI	17	0758E	0800	0815C	N18	W19	.409		15.9	170	1F	2	C		220		
WEND	17	0846E		0908	N18	W15	.363		16.2	220	SN		C	0847	81	.9	
WEND	17	0908	0920	0954	N18	E24	.471		19.2	46	1N		C	0920	219	2.6	E
LEAR	17	0918	0924	0926D	N16	W81	.987		11.3	80	SB	3	C		79		
WEND	17	1011	1019	1108	N18	E20	.421		18.9	57	1N		C	1019	188	2.2	E
WEND	17	1134	1138	1148	N18	E21	.433		19.1	14	SN		C	1138	113	1.3	E
RAMY	17	1134	1142	1159	N16	E21	.416		19.1	25	SN	3	C		68		
RAMY	17	1207	1208	1215	S17	W69	.944		12.3	8	SF	3	C		28		
WEND	17	1238	1259	1320	N17	E21	.425		19.1	42	SF		C	1259	150	1.7	E
WEND	17	1302	1308	1323	S11	W86	.998		11.1	21	SN		C	1308	31		
WEND	17	1337		1402	S11	W80	.987		11.6	25	1N		C	1344	81		
ATHN	17	1338E	1339	14000	S10	W77	.977		11.8	220	SB	3	C				D
RAMY	17	1546	1547	1555	S10	W87	.999		11.1	9	SF	3	C				
RAMY	17	1753	1803	1824	N17	E17	.375		19.0	31	SB	3	C		100		D
PALE	17	1801	1803	1815	N17	E18	.387		19.1	14	SF	2	C		35		
RAMY	17	1947	1951	2023	S17	W74	.968		12.3	36	SN	3	C				
RAMY	17	2023	2027	20560	N10	E47	.734		21.4	330	SF	3	C		34		
PALE	17	2236	2238	2257	N15	E57	.843		22.2	21	SF	2	C		60		
MANI	17	2238	2240	2247	N57	E13	.823		18.9	9	SF	2	C		100		
LEAR	17	2357	0008	00110	N17	W10	.299		17.2	140	1B	3	C		395		
LEAR	18	0210	0219	0222D	N16	E12	.308		19.0	120	SB	3	C		80		
PALE	18	0214	0217	0225	N16	E13	.319		19.1	11	SF	2	C		25		
LEAR	18	0446	0451	0454C	N13	E53	.803		22.2	80	1B	3	C		339		D
ISTA	18	0615		0620	N16	W29	.523		16.1	5	SF						D
ISTA	18	0739		0745	N16	E11	.297		19.1	6	SF						D
LEAR	18	0954	1003	10050	N17	W28	.516		16.3	110	SB	3	C		105		
ATHN	18	0957E	0959	1022	N18	W26	.497		16.5	250	SB	2	C		111		
RAMY	18	1124	1124	1213	N09	E40	.647		21.5	49	SN	3	C		54		
RAMY	18	1141	1146	1218	N14	E48	.752		22.1	37	1B	3	C		248		D
ATHN	18	1141	1145	1221	N11	E49	.758		22.2	40	1B	2	C		175		D
RAMY	18	1306	1307	1315	N09	E37	.607		21.3	9	SB	3	C		54		
RAMY	18	1325	1329	1331	N09	E37	.607		21.3	6	SN	3	C		20		
RAMY	18	1405	1411	1431	N15	E06	.239		19.0	26	SF	3	C		35		
RAMY	18	1448	1451	1523	N16	E05	.248		19.0	35	SB	3	C		119		
RAMY	18	1553	1558	1609	N13	E46	.728		22.1	16	1N	3	C		280		
RAMY	18	1652	1653	1702	N10	E35	.581		21.3	10	SB	3	C		83		
HOLL	18	1653	1653	1716	N10	E35	.581		21.3	23	SB	4	C		90		D
RAMY	18	1726	1727	1738	N16	E04	.243		19.0	12	SF	3	C		50		

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IM-POR-TANCE	OBS.		MEASUREMENTS			REMARKS
	DAY	START	MAX. PHASE	END	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	HALE PLAGE REGION	CMP. DAY	MIN.		CONF.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR. AREA Sq. Deg.	
HOLL	18	1804	1816	1825	N11	E36	.598		21.5	21	SF	3	C		74		
HOLL	18	1831	1832	1850	N16	E04	.243		19.1	19	SN	3	C		49		
RAMY	18	1836	1836	1850	N10	E36	.595		21.5	14	SF	3	C		19		
LEAR	19	0144	0149	0223	N08	E31	.520		21.4	39	2B	3	C		504		D
PALE	19	0146	0148	0211	N09	E31	.523		21.4	25	1N	2	C		192		D
LEAR	19	0211	0211	0228	N13	E41	.668		22.2	17	SF	3	C		27		
LEAR	19	0322	0335	0404	N14	E41	.671		22.2	42	1B	3	C		183		
LEAR	19	0726	0726	0745	N15	W07	.248		18.8	19	SF	3	C		22		
LEAR	19	0735E	0735U	0743	N13	E38	.630		22.2	8D	SF	3	C		20		
LEAR	19	0747	0749	0819	N11	E41	.663		22.4	32	SN	3	C		66		
LEAR	19	0845	0852	0909	N16	W03	.241		19.1	24	SB	3	C		180		D
ISTA	19	0949		1014	N13	E36	.604		22.1	25	SB						U
RAMY	19	1221	1251	1308	N09	E43	.685		22.7	47	SF	3	C		30		
RAMY	19	1224	1232	1244	N18	W41	.683		16.4	20	SF	3	C		51		
RAMY	19	1236	1238	1240D	N16	W07	.263		19.0	4D	SB	3	C		175		D
RAMY	19	1606	1630	1648	S15	W17	.410		18.4	42	SF	3	C		40		
HOLL	19	1608E	1613	1624	N11	E41	.663		22.7	16D	SF	3	C		46		
HOLL	19	1623	1637	1654	N12	E39	.640		22.6	31	SF	3	C		93		
HOLL	19	1858	1900	1904	N13	E30	.523		22.0	6	SF	3	C		44		
HOLL	19	2120	2147	2149D	N14	E28	.500		22.0	29D	1B	3	C		202		
HOLL	19	2125	2125	2141	N16	W14	.332		18.8	16	SF	3	C		21		
PALE	19	2135	2146	2210	N13	E27	.481		21.9	35	SN	3	C		75		D
LEAR	20	0445E	0445U	0448D	N13	E26	.467		22.1	3D	1N	3	C		277		
LEAR	20	0804	0812	0815D	N13	E27	.482		22.4	11D	1B	3	C		382		
WEND	20	1128	1134	1143	S16	E60	.883		25.0	15	SF		C	1134	38	.8	
RAMY	20	1241E	1243U	1301	N08	E32	.535		22.9	20D	SF	3	C		85		
WEND	20	1244	1246	1300	N08	E33	.550		23.0	16	SF		C	1246	34	.4	
RAMY	20	1523	1526	1555	N15	W24	.452		18.8	32	SF	3	C		61		
HOLL	20	1527	1527	1610	N15	W23	.438		18.9	43	SN	3	C		72		
RAMY	20	1542	1545	1602	N14	E22	.418		22.3	20	SF	3	C		38		
HOLL	20	1543	1546	1621	N12	E23	.419		22.4	38	SN	3	C		72		
RAMY	20	1739	1739	1747	N13	E22	.411		22.4	8	SN	3	C		24		
HOLL	20	1739	1740	1749	N13	E22	.411		22.4	10	SN	3	C		28		
RAMY	20	2012	2023	2037	N13	W05	.205		20.5	25	SF	3	C		47		
RAMY	20	2046	2048	2107D	N15	W27	.493		18.8	21D	SN	3	C		82		
HOLL	20	2049	2059	2147	N15	W28	.506		18.8	58	SN	3	C		120		
LEAR	21	0620	0634	0636D	N18	W30	.551		19.0	16D	SB	3	C		189		
LEAR	21	0744	0744	0805D	N12	E14	.293		22.4	21D	SB	3	C		153		
BOUL	21	2100	2110	2116	N16	W35	.604		19.3	16	SN	2	C		60		
BOUL	21	2106	2111	2114	N10	W08	.194		21.3	8	SF	2	C		40		
LEAR	22	0533	0544	0549D	S17	E40	.692		25.2	16D	1B	3	C		294		
ATHN	22	0600E	0604U	0631	S20	E39	.696		25.2	31D	SB	3	C		127		
WEND	22	1117E		1126D	N23	E59	.873		26.9	9D	SF		C	1117	94	2.0	
RAMY	22	1529	1530	1535	N08	W22	.386		21.0	6	SN	3	C		50		
HOLL	22	1537E	1640	1653	N15	W50	.777		18.9	76D	SN	3	C		20		
HOLL	22	1539E	1603	1610	N12	E47	.739		26.2	31D	SF	3	C		28		
RAMY	22	1539	1614	1632	N15	W49	.766		19.0	53	SF	3	C		86		
HOLL	22	1632	1638	1653	N09	W21	.375		21.1	21	SN	3	C		23		
HOLL	22	1651	1651	1706	N11	E01	.157		22.8	15	SF	3	C		21		
HOLL	22	1657	1719	1754	N11	W15	.299		21.6	57	SN	3	C		145		
RAMY	22	1716	1717	1732	N09	W17	.314		21.4	16	SF	3	C		40		
RAMY	22	1734	1735	1758	S17	E35	.635		25.4	24	SF	3	C		37		
HOLL	22	1734	1734	1759	S18	E34	.629		25.3	25	SF	3	C		25		
HOLL	23	1422	1428	1439	N16	W59	.864		19.2	17	SF	3	C		13		
HOLL	23	1430	1440	1443	N09	W17	.315		22.3	13	SF	3	C		28		
HOLL	23	1446	1455	1508	N15	W63	.895		18.9	22	SF	3	C		66		
HOLL	23	1459	1500	1517	N12	W17	.336		22.3	18	SN	3	C		67		
RAMY	23	1729	1742	1755	S11	W39	.654		20.8	26	SF	3	C		31		
HOLL	23	1729	1730	1758	S11	W39	.654		20.8	29	SF	3	C		57		
HOLL	23	1751	1755	1757D	N11	W18	.343		22.4	6D	1B	3	C		231		D
RAMY	23	1752	1755	2057	N11	W23	.416		22.0	185	1B	3	C		237		
PALE	23	1756E	1756	1810	N11	W18	.343		22.4	14D	SN	2	C		31		D
PALE	23	1842	1845	1930	N13	W23	.428		22.1	48	SF	2	C		125		D
RAMY	23	2029	2030	2045	N06	W33	.547		21.4	16	SF	3	C		33		
HOLL	23	2153	2156	2235	N12	W21	.393		22.3	42	SB	3	C		147		
PALE	23	2156	2157	2206	N12	W21	.393		22.3	10	SN	2	C		110		

Hα SOLAR FLARES

NOVEMBER 1980

OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS
					APPROX.												
	DAY	START	MAX. PHASE	END	LAT.	MER. DIST.	CENTRAL DISTANCE	HALE PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill. of Dis.	CORR. AREA Sq. Deg.	
LEAR	24	0401	0411	0414D	S09	W43	.697		20.9	13D	1N	3	C		389		
ISTA	24	0712		0720	N10	W43	.688		21.1	8	SN						D
WEND	24	0845	0848	0900	N11	W22	.402		22.7	15	SF		C	0848	41	.5	E
WEND	24	0902	0904	0916	N12	E25	.451		26.3	14	SF		C	0904	53	.6	
WEND	24	0914	0929	0945	N09	W21	.376		22.8	31	SN		C	0929	150	1.7	
WEND	24	1205	1207	1211	S02	E23	.396		26.2	6	SF		C	1207	18	.2	
RAMY	24	1346	1349	1453	N07	W24	.414		22.8	67	1D	3	C		298		
WEND	24	1350E		1408C	N10	W25	.441		22.7	18D	1N		C	1355	300	3.5	U
RAMY	24	1402	1405	1412	N12	E22	.408		26.2	10	SF	3	C		48		
RAMY	24	1405	1406	1415	N14	WED	.870		20.1	10	SF	3	C		20		
RAMY	24	1412	1414	1428	N09	W45	.711		21.2	16	SF	3	C		45		
RAMY	24	1438	1438	1447	N10	W47	.736		21.1	9	SN	3	C		145		
RAMY	24	1459	1459	1516	N08	W45	.710		21.2	17	SF	3	C		27		
HOLL	24	1651	1702	1744	N09	W26	.452		22.8	53	SN	3	C		186		
RAMY	24	1653	1704	1738	N10	W27	.470		22.7	45	SN	3	C		181		
HOLL	24	1830	1831	1847	N07	W46	.721		21.3	17	SN	3	C		49		
RAMY	24	1841	1844	1858	N10	W32	.542		22.4	17	SF	3	C		27		
RAMY	24	1847	1851	1856	N09	W51	.780		21.0	9	SF	3	C		56		
HOLL	24	1849	1850	1854	N09	W50	.769		21.0	5	SF	3	C		52		
HOLL	24	2032	2038	2050	N07	W29	.490		22.7	18	SF	3	C		116		
LEAR	25	0445	0446	0452D	N15	E16	.353		26.4	7D	1N	3	C		236		
WEND	25	0857	0859	0902	N17	W70	.942		20.1	5	SN		C	0859	56		
RAMY	25	1713	1713	1743	N08	W40	.647		22.7	30	SN	3	C		151		
RAMY	25	1732	1736	1753	N07	W59	.857		21.3	21	SF	3	C		29		
HOLL	25	2036	2040	2131D	S12	W70	.945		20.6	55D	1B	3	C		239		
ISTA	26	0755		0818	N13	W69	.935		21.2	23	SN						E
LEAR	26	0756	0803	0805D	N09	W66	.914		21.4	9D	SB	3	C		73		D
ISTA	26	0815		0823	N16	W79	.982		20.4	8	SN						D
HOLL	26	1925	2003	2022	N23	E69	.940		2.0	57	SB	3	C		63		
MANI	27	0747E	0747U	0755D	S11	E81	.989		3.4	8D	SN	3	C		50		
RAMY	27	1228	1237	1334	N15	E10	.289		28.3	66	SF	3	C		182		
RAMY	27	1240	1242	1255	N03	W64	.899		22.7	15	SN	3	C		18		
HOLL	27	1533	1535	1543	S11	W12	.296		26.7	10	SF	3	C		23		
HOLL	27	1813	1815	1838	S09	E72	.954		3.2	25	SF	3	C		23		
HOLL	27	1824	1831	1843	N14	W20	.398		26.3	19	SF	3	C		47		
HOLL	27	2053	2054	2111	N18	E04	.293		28.2	18	SB	3	C		60		
HOLL	27	2136	2137	2150	N14	W22	.425		26.3	14	SN	3	C		67		
HOLL	27	2141	2154	2155	N16	E04	.261		28.2	14	SF	3	C		31		
LEAR	28	0537	0542	0545D	S11	W48	.758		24.6	8D	1N	3	C		286		
MANI	28	0540E	0543	0547	S12	W46	.738		24.8	7D	SN	3	C		100		
MANI	28	0728E	0728U	0740D	N39	W16	.649		27.1	12D	SN	3	C		80		
LEAR	28	0939	0948	1021D	S13	E62	.892		3.1	42D	SB	2	C		75		D
HOLL	28	1515	1519	1522	S10	E60	.873		3.1	7	SF	2	C		16		
HOLL	28	1519	1521	1524	N14	W30	.534		26.4	5	SF	2	C		34		
MANI	29	0728E	0728U	0740D	N16	W39	.659		26.4	12D	SN	3	C		80		
RAMY	29	1229	1230	1236	N13	E11	.277		30.3	7	SN	3	C		30		
RAMY	29	1439	1441	1445	S10	E42	.685		2.8	6	SN	3	C		25		
RAMY	29	1612	1627	1658	N17	E54	.823		3.7	46	SF	3	C		88		
RAMY	29	1636	1643	1654	N13	E09	.256		30.4	18	SF	3	C		28		
RAMY	29	1847	1851	1909	S10	E48	.755		3.4	22	SF	3	C		25		
HOLL	29	2007	2010	2020	S07	E41	.665		2.9	13	SN	3	C		28		
HOLL	29	2110	2149	2304	N20	W24	.501		28.1	114	SN	3	C		101		
PALE	29	2121	2125	2139	N18	W18	.413		28.5	18	SF	2	C		52		
PALE	29	2145	2149	2214	N17	W19	.415		28.5	29	SF	2	C		32		
HOLL	29	2146	2154	2202	S09	E44	.707		3.2	16	SN	3	C		40		
MANI	29	2347E	2351	0000D	S22	E31	.617		2.3	13D	SN	3	C		150		
PALE	29	2348	2349	0004	N25	E30	.609		2.2	16	SF	2	C		86		
LEAR	29	2349E	2350U	2356D	N21	E32	.602		2.4	7D	1N	3	C		234		
LEAR	30	0109	0117	0119D	S06	E11	.226		30.9	10D	1N	3	C		402		
RAMY	30	1143E	1143U	1219	S34	W31	.714		28.2	36D	SF	3	C		24		
RAMY	30	1151	1206	1250	N20	W22	.480		28.8	59	SN	3	C		109		
RAMY	30	1236	1243	1248D	N20	W46	.752		27.1	10D	SB	3	C		84		D
RAMY	30	1413	1421	1426	N20	W46	.752		27.1	13	SF	3	C		71		
RAMY	30	1435	1436	1446	S11	E27	.491		2.6	11	SN	3	C		41		
RAMY	30	1534	1537	1539	S11	E34	.586		3.2	5	SF	3	C		39		
RAMY	30	1704	1705	1718	S34	W37	.758		27.9	14	SF	3	C		23		

Hα SOLAR FLARES

NOVEMBER 1980

OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IM POR-TANCE	OBS.		MEASUREMENTS			REMARKS
	DAY	START	MAX. PHASE	END	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	HALE PLAGE REGION	CMP. DAY	MIN.		CONG.	TYPE	TIME UT	MEAS. AREA Mil. of Disk	CORR. AREA Sq. Deg.	
RAMY	30	1743	1753	1800	S10	E42	.685		3.9	17	SF	3	C		33		
RAMY	30	2013	2017	20210	S11	E28	.505		2.9	80	1B	3	C		132		D

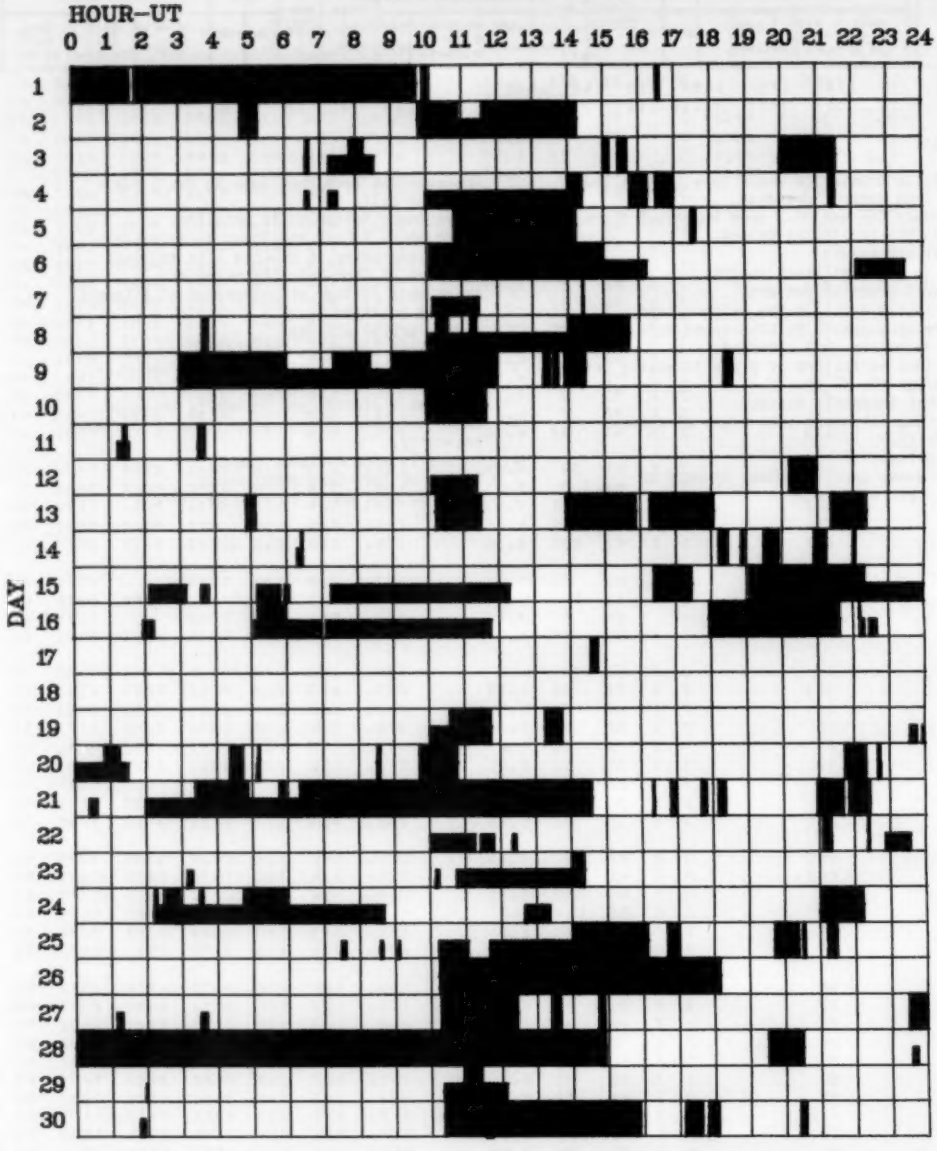
"REMARKS":

A = Eruptive prominence whose base is less than 90° from central meridian.
B = Probably the end of a more important flare.
C = Invisible 10 minutes before.
D = Brilliant point.
E = Two or more brilliant points.
F = Several eruptive centers.
G = No visible spots in the neighborhood.
H = Flare accompanied by high-speed dark filament.
I = Active region very extended.
J = Distinct variations of plage intensity before or after the flare.
K = Several intensity maxima.
L = Existing filaments show signs of sudden activity.
M = White-light flare.
N = Continuous spectrum shows effects of polarization.
O = Observations have been made in the H and K lines of CaII.
P = Flare shows helium D3 in emission.
Q = Flare shows Balmer continuum in emission.
R = Marked asymmetry in H-alpha line suggests ejection of high-velocity material.
S = Brightness follows disappearance of filament in same position.
T = Region active all day.
U = Two bright branches, parallel or converging.
V = Occurrence of an explosive phase: important, expansion within roughly 1 minute that often includes a significant intensity increase.
W = Great increase in area after time of maximum intensity.
X = Unusually wide H-alpha line.
Y = System of loop-type prominences.
Z = Major sunspot umbra covered by flare.

INTERVALS OF NO FLARE PATROL OBSERVATION

FOR PRECEDING SOLAR FLARE TABLE

NOVEMBER 1980



Observatories included in total patrol:

Athens	Holloman	Learmonth	Palehua	Wendelstein
Berne	Istanbul	Manila	Ramey	

Times of no flare patrol are shown by the shaded area for each day divided into times of no cinematographic patrol (bottom half of day) and times of neither visual nor cinematographic patrol (top half of day).

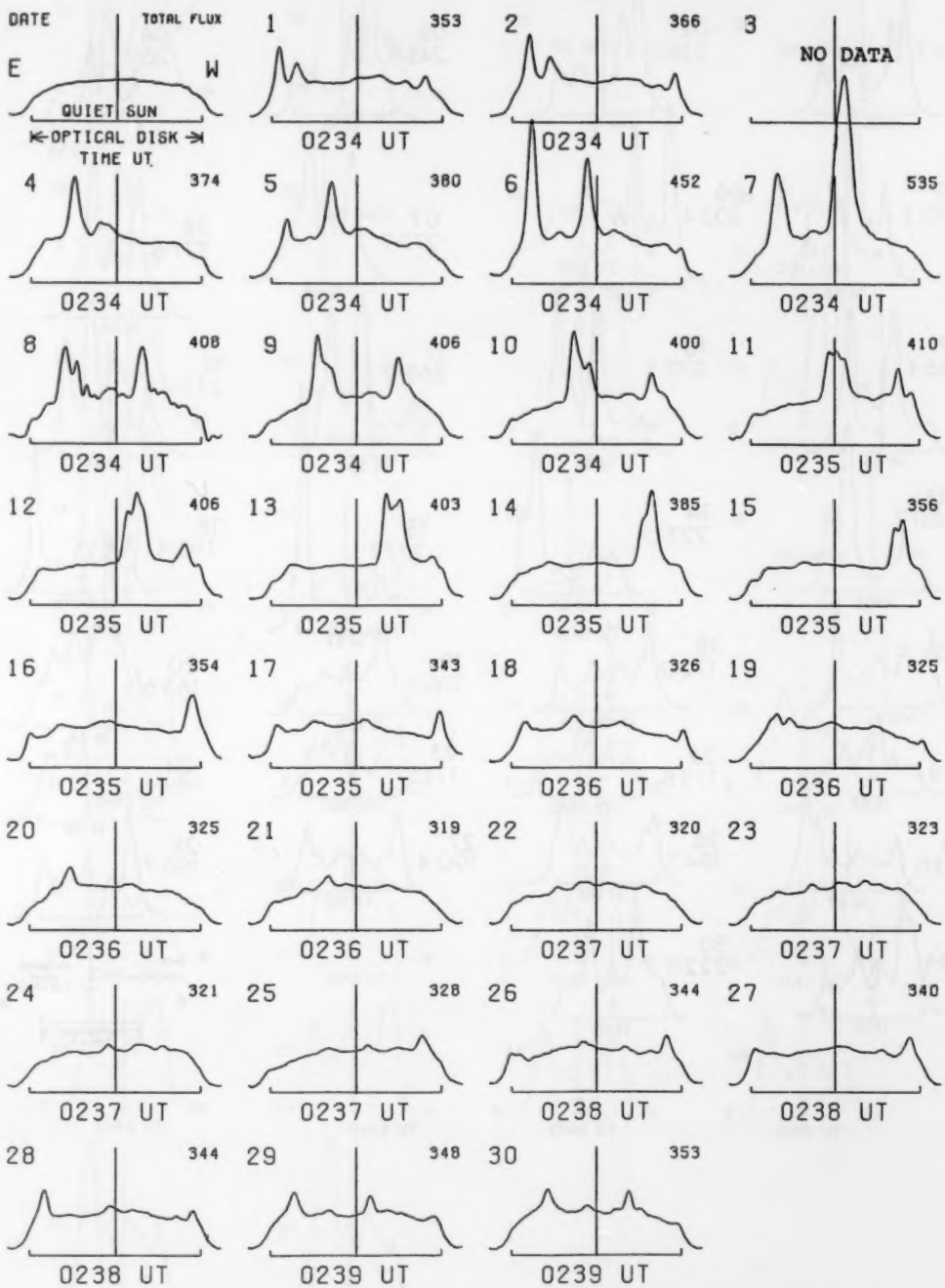
EAST-WEST SOLAR SCANS

NOVEMBER 1980

TOYOKAWA, JAPAN

3 CM

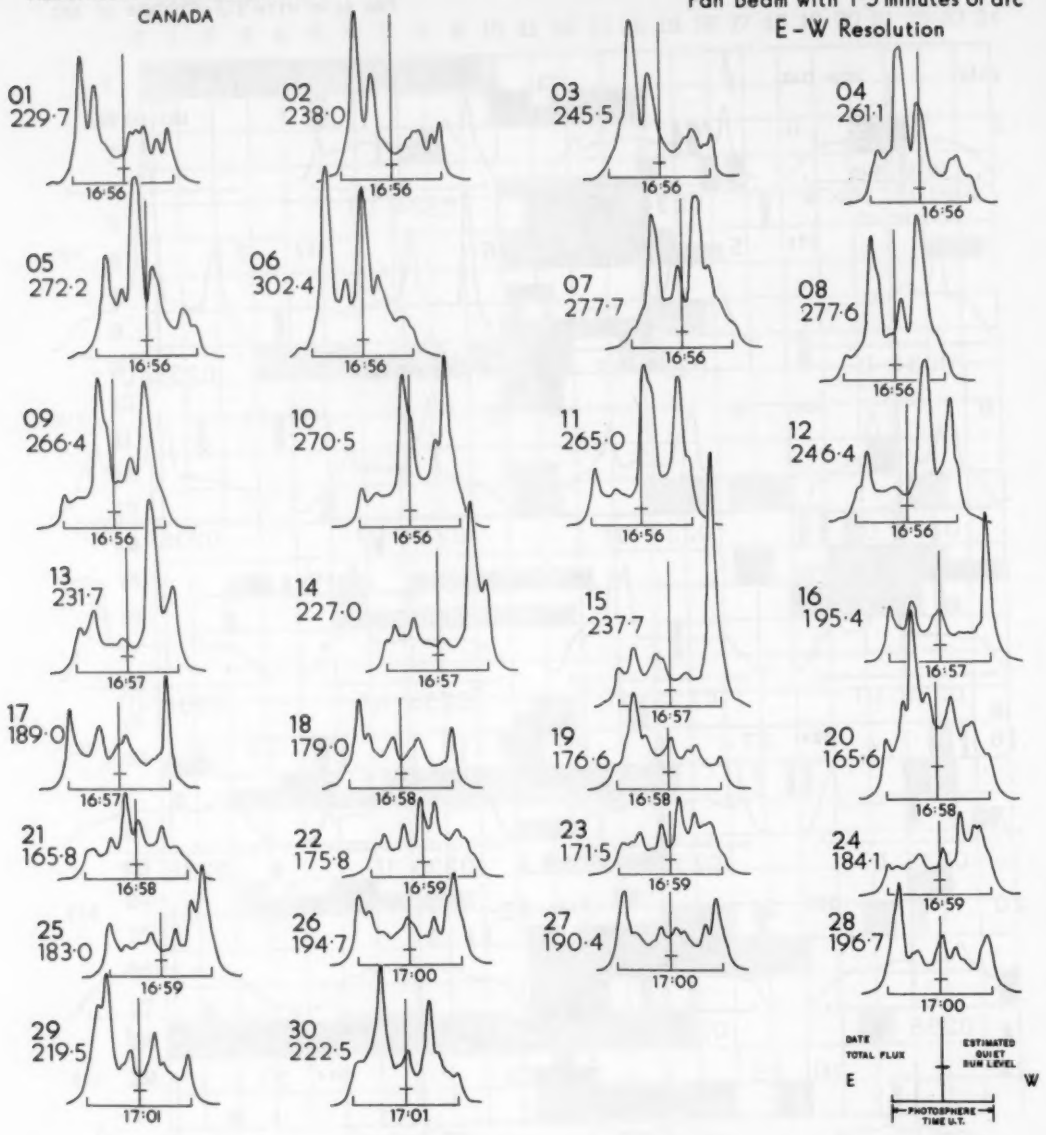
FAN BEAM WITH 1.1 MINUTES OF ARC



EAST-WEST SOLAR SCANS
NOVEMBER 1980

ALGONQUIN RADIO OBSERVATORY
CANADA

10·7 cm
Fan Beam with 1·5 minutes of arc
E-W Resolution

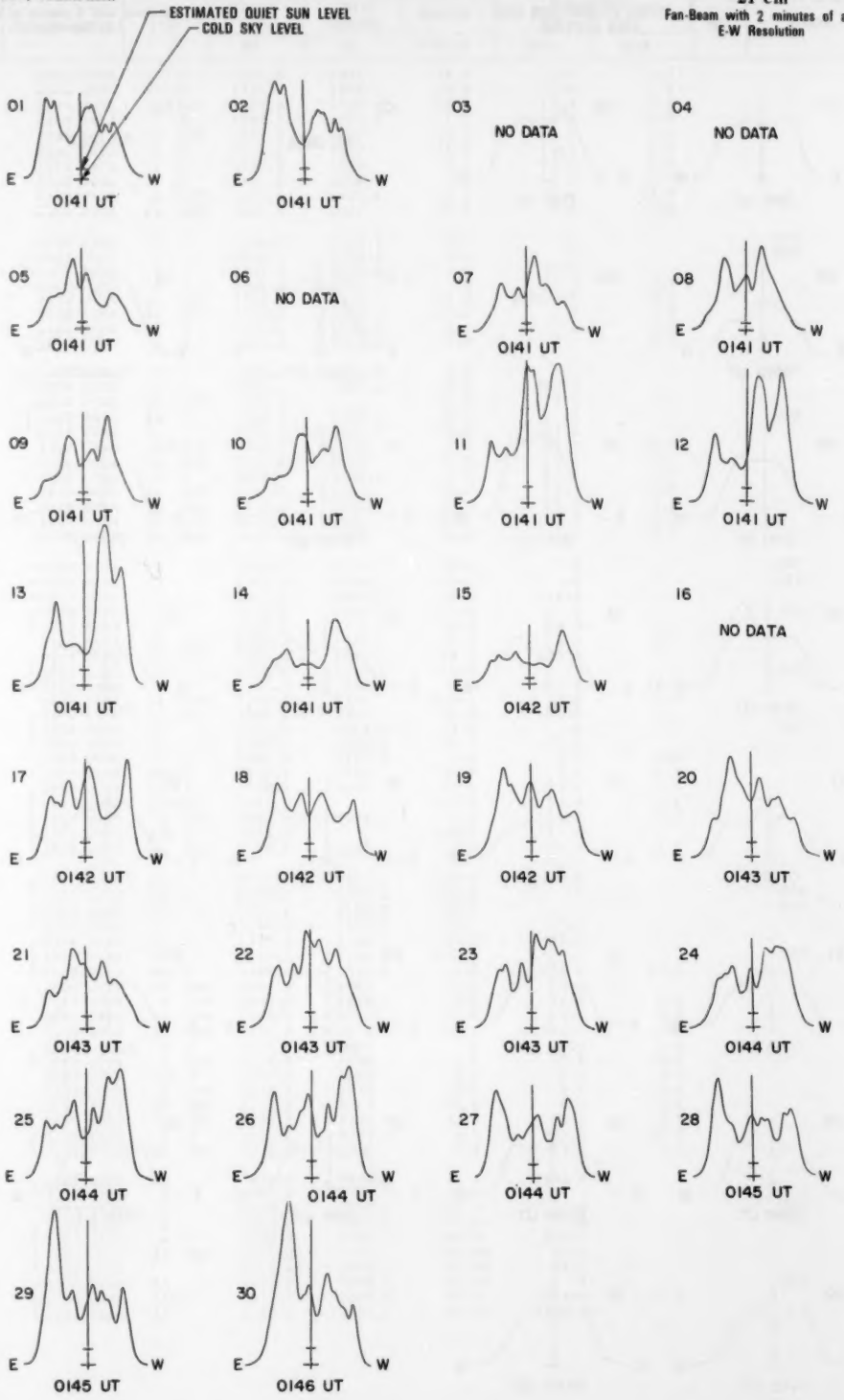


EAST-WEST SOLAR SCANS

NOVEMBER 1980

Fleurs, Australia

21 cm
Fan-Beam with 2 minutes of arc
E-W Resolution



30
Nov 80

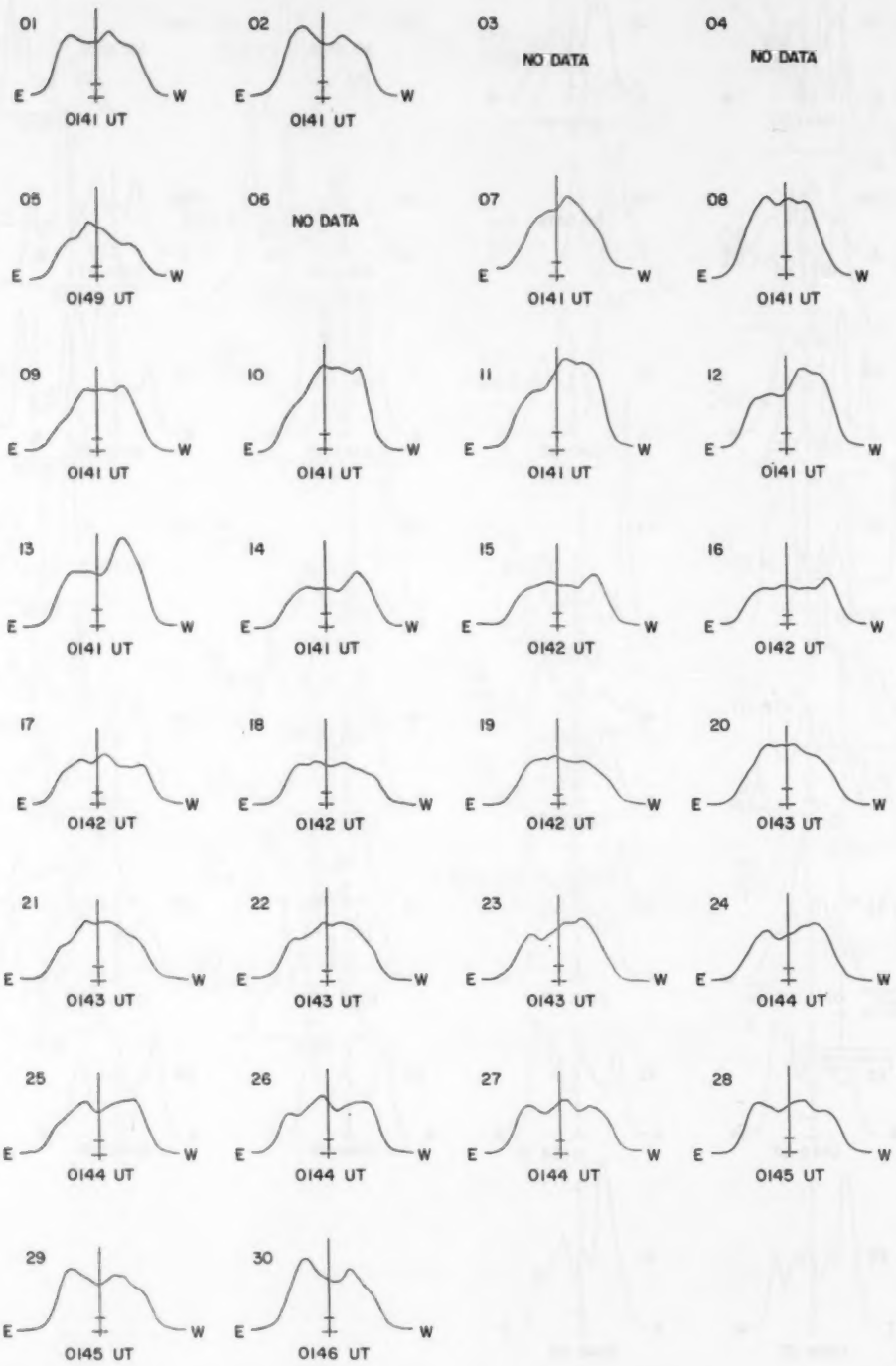
EAST-WEST SOLAR SCANS

NOVEMBER 1980

Fleurs, Australia

ESTIMATED QUIET SUN LEVEL
COLD SKY LEVEL

43 cm
Fan-Beam with 4 minutes of arc
E-W Resolution



SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS

NOVEMBER 1980

DAY OF MONTH	FREQUENCY	STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22}Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY MEAN	INT	REMARKS
01	2800	OTTA	24O R	1315.0	1325	10.0	3.8	1.9		
	2800	OTTA	24O R	1335.0	1345	10.0	3.8	1.9		
	2800	OTTA	21 GRF	1415.0	1420	70.0	3.8	2.2		
	2800	OTTA	1 S	1503.7	1503.9	1.2	4.8	2.4		
	2800	OTTA	20 GRF	1527.0	1530	20.0	3.8	1.6		
	2800	OTTA	1 S	1732.0	1737	10.0	2.2	1.0		
	2800	OTTA	1 S	1825.0	1826	3.0	3.0	1.5		
	2800	OTTA	1 S	1856.0	1856.5	2.0	3.0	1.0		
	2800	OTTA	4 S/F	1907.5	1909.4	4.0	42.0	17.0		
	2800	OTTA	21 GRF	1915.0	1922	20.0	6.6	3.6		
02	3200	BERN	3	1110.6	1119.1	2.5	.0			OPR
	3200	BERN	3	1410.2	1419.0	1.0	.0			OPR
	8400	BERN	3	1410.2	1419.0	1.2	37.0			
	2800	OTTA	8 S	1410.0	1419	.6	16.0	8.4		
	2800	OTTA	20 GRF	1550.0	1635	110.0	4.6	2.6		
	2800	OTTA	21 GRF	1903.0	1908	25.0	2.8	1.6		
	2800	OTTA	45 C	1905.0	1905.5	2.5	10.2	2.8		
	2800	OTTA	1 S	1911.0	1911.6	1.2	3.2	1.6		
03	3200	BERN	3	1203.1	1204.5	9.0	.0			OPR
	8400	BERN	3	1203.2	1204.5	11.0	167.0			
	2800	OTTA	21 GRF	1350.0		40.0	4.6			
	3200	BERN	22	1350.0	1357.7	39.0	.0			OPR
	8400	BERN	22	1351.1	1357.7	30.0	131.0			
	2800	OTTA	4 S/F	1355.0	1358	7.0	51.0	26.0		
	2800	OTTA	21 GRF	1553.0	1554	30.0	4.2	2.1		
	2800	OTTA	3 S	1606.0	1606.5	1.0	12.0	6.0		
	2800	OTTA	20 GRF	1625.0	1633	35.0	3.2	1.8		
	2800	OTTA	22 GRF	1925.0	1950	35.0	6.2	2.0		
	2800	OTTA	20 GRF	2030.0	2045	27.0	5.0	2.5		
	2695	PENT	20 GRF	2130.0	2150	60.0	4.2	2.1		
04	3200	BERN	3	0731.3	0734.1	50.0	.0			OPR
	3200	BERN	3	0917.6	0919.3	43.0	.0			OPR
	8400	BERN	3	0917.6	0919.3	18.0	115.0			
	3200	BERN	1	1032.0	1115.5	115.0	.0			OPR
	8400	BERN	1	1100.0	1115.6	90.0	24.0			
	2800	OTTA	21 GRF	1240.0	1300	55.0	9.2	5.0		
	8400	BERN	3	1243.5	1246.5	60.0	128.0			
	3200	BERN	3	1243.5	1246.2	60.0	.0			OPR
	2800	OTTA	3 S	1245.0	1246.7	5.0	84.0	24.0		
	2800	OTTA	21 GRF	1345.0	1530	250.0	14.0	7.2		
	2800	OTTA	3 S	1349.0	1355	11.0D	15.4			
	3200	BERN	1	1349.8	1354.5	34.0	.0			OPR
	8400	BERN	1	1349.9	1355.0	26.0	18.0			
	2800	OTTA	1 S	1505.0	1505.3	2.5	9.4	4.0		
	2800	OTTA	24O R	1805.0	1840	35.0	4.6	2.3		
	2800	OTTA	24 R	1950.0	2005	15.0	4.6	2.3		
	2800	OTTA	27APRF	1950.0		150.0	4.6	3.9		
	2800	OTTA	2 S/F	1952.0	1954.5	5.0	9.2	4.8		
	2800	OTTA	24P R	2005.0		105.0	4.6			
	2800	OTTA	26 FAL	2150.0	2220	30.0	-4.6	-2.3		
05	8400	BERN	22	0740.0	0859.1	180.0	40.0			
	3200	BERN	22	0740.0	0839.3	180.0	.0			OPR
	3200	BERN	2	1046.3	1109.8	65.0	.0			OPR
	8400	BERN	3	1046.3	1109.8	65.0	17.0			
	8400	BERN	47	1245.0	1346.5	150.0U	1320.0			
	3200	BERN	47	1245.0	1346.5	150.0	.0			OPR
	2800	OTTA	46F C	1344.0	1346.5	18.0	312.0	84.0		
	2800	OTTA	29 PBI	1402.0	1402	90.0	17.6			
	2800	OTTA	4 S/F	1545.0	1545.8	2.0	10.0	5.0		
	2800	OTTA	20 GRF	1600.0	1610	30.0	4.4	2.2		
	2800	OTTA	21 GRF	1635.0	1653	65.0	7.0	3.8		
	2800	OTTA	8 S	1636.9	1637	.5	5.6	2.8		
	2800	OTTA	4 S/F	1639.0	1640	2.5	20.0	9.6		
	2800	OTTA	24O R	1851.0	1853	2.0	5.6	2.8		
	2800	OTTA	2 S/F	1934.0	1936	10.0	5.6	2.8		
	2695	PENT	20 GRF	2015.0	2103	80.0	8.2	4.1		
	2695	PENT	20 GRF	2140.0	2200	40.0	4.4	2.2		
	2695	PENT	3 S	2232.0	2233.2	4.0	104.0	35.0		
	2695	PENT	29 PBI	2236.0	2236	9.0	14.4	7.2		
06	8400	BERN	3	0646.9	0650.9	15.0D	992.0			
	3200	BERN	3	0647.0	0651.0	60.0	.0			OPR
	3200	BERN	1	0815.0	0853.1	127.0	.0			OPR
	3200	BERN	4	1222.0	1416.2	150.0	.0			OPR
	8400	BERN	4	1230.0	1416.3	140.0	229.0			
	2800	OTTA	21 GRF	1415.0E	1642	435.0D	30.0			
	2800	OTTA		1415.0E	1416.3	30.0D	51.0			
	3200	BERN	46	1452.3	1508.2	40.0D	.0			OPR
	2800	OTTA	46P C	1457.0	1508.4	25.0	284.0	75.0		
	8400	BERN	46	1457.0	1503.2	40.0D	424.0U			

SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS
NOVEMBER 1980

DAY OF MONTH	FREQUENCY	STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10⁻ PEAK	MEAN	INT	REMARKS
06	2800	OTTA	30 PBI	1522.0	1522	60.0	33.0	16.0		
	2800	OTTA	4 S/F	1536.5	1532	10.0	30.0	14.0		
	2800	OTTA	1 S	1602.0	1605	6.5	9.8	5.0		
	2800	OTTA	8 S	1759.0	1759	.2	45.0			
	2800	OTTA	1 S	1817.5	1818	2.0	3.4	1.2		
	2800	OTTA	21 GRF	1915.0	2000	90.0	18.6	9.3		
	2800	OTTA	3 S	1916.0	1922	10.0	20.8	10.0		
	2800	OTTA	4 S/F	1936.0	1943.5	20.0	37.2	18.8		
	2800	OTTA	4 S/F	2025.5	2025.7	1.8	13.6	10.2		
	2800	OTTA	240 R	2150.0	2210	20.0	10.6	7.0		
07	3200	BERN	22	0711.5	0726.3	105.0	.0			OPR
	8400	BERN	22	0711.5	0726.5	180.0U	56.0U			
	8400	BERN	20	1018.0	1134.7	140.3U	40.0			
	3200	BERN	20	1018.0	1140.0	140.0	.0			OPR
	8400	BERN	21	1242.5	1434.1	165.3U	253.0D			
	3200	BERN	21	1242.5	1434.1	165.3U	.0			OPR
	2800	OTTA	21 GRF	1415.0	1440	105.0	27.5	8.0		
	2800	OTTA	3 S	1433.0	1434	3.0	14.0	7.0		
	2800	OTTA	1 S	1525.5	1526.5	3.5	6.2	3.1		
	2800	OTTA	4 S/F	1536.0	1537	6.0	71.0	20.0		
	2800	OTTA	20 GRF	1610.0	1630	50.0	5.6	3.4		
	2800	OTTA	21 GRF	1727.0	1745	100.0	49.4	21.0		
	2800	OTTA	1 S	1727.9	1728.1	1.0	5.0	2.5		
	2800	OTTA	3 S	1735.5	1737.3	3.5	38.0	19.0		
	2695	PENT	23 GRF	2015.0	2240	195.0D	37.0			
	2800	OTTA	40 F	2029.0	2030	2.0	50.0			
	2695	PENT	1 S	2142.5	2143	1.5	9.0	4.8		
	2695	PENT	4 S/F	2159.5	2201	3.5	17.2	8.6		
	2695	PENT	1 S	2223.0	2224	1.5	7.4	3.7		
08	8400	BERN	20	0713.0	0718.1	72.0	81.0			
	3200	BERN	20	0715.0	0719.2	72.0	.0			OPR
	8400	BERN	4	0845.6	0902.6	55.0	124.0			
	3200	BERN	4	0851.5	0902.6	103.0	.0			OPR
	8400	BERN	47	1030.0	1335.0U	300.0U	2509.0D			
	3200	BERN	47	1030.0	1335.0U	300.0U	.0			OPR
	2800	OTTA	47 GB	1334.7	1337	15.3	1084.0	226.0		
	2800	OTTA	30 PBI	1350.0	1350	130.0	75.0	18.6		
	2800	OTTA	3 S	1447.9	1448.1	1.0	26.2	9.0		
	2800	OTTA	41 SER	1447.9	1452.3	8.1	700.0			
	2800	OTTA	4 S/F	1449.6	1450	1.5	83.0	31.0		
	2800	OTTA	4 S/F	1452.0	1452.3	4.0	465.0	54.0		
	2800	OTTA	22 GRF	1610.0	1740	190.0	10.8	5.4		
	2800	OTTA	21 GRF	1955.0	2010	90.0	10.8	4.6		
	2800	OTTA	3 S	1957.0	1959.7	5.0	34.0	15.0		
	2695	PENT	1 S	2014.5	2015.6	5.0	6.8	3.8		
09	8400	BERN	20	0725.5	0818.5	235.0	15.0			
	3200	BERN	20	0725.5	0818.5	235.0	.0			OPR
	2800	OTTA	1 S	1455.5	1456	1.0	5.3	2.5		
	2800	OTTA	21 GRF	1605.0	1725	370.0	26.0	8.6		
	2800	OTTA	1 S	1615.8	1616.5	2.0	9.4	5.7		
	2695	PENT	8 S	1703.0	1703.1	.3	5.0			
	2800	OTTA	3 S	1713.5	1715	8.0	56.0	14.0		
	2800	OTTA	1 S	1911.0	1912	3.0	3.8			
	2800	OTTA	1 S	1918.5	1920	3.0	4.4	2.2		
	2695	PENT	21 GRF	2118.0	2135	35.0	4.6	2.4		
	2695	PENT	1 S	2144.0	2146	9.0	5.4	2.5		
10	3200	BERN	20	0803.7	0808.8	130.0	.0			OPR
	8400	BERN	1	0804.0	0807.8	125.0	65.0			
	3200	BERN	46	1136.1	1141.3	80.0	.0			OPR
	8400	BERN	46	1136.5	1141.2	80.0	1829.0			
	2800	OTTA	21 GRF	1245.0E	1320	160.0D	27.0			
	2800	OTTA	3 S	1336.0	1337.5	2.5	27.4	7.0		
	2800	OTTA	1 S	1444.0	1445	3.0	8.8	4.8		
	2800	OTTA	23 GRF	1548.0	1710	145.0	15.2	6.4		
	2800	OTTA	1 S	1611.8	1612	1.0	3.8	2.8		
	2800	OTTA	1 S	1923.5	1924	3.0	2.8	1.4		
11	8400	BERN	3	0724.2	0725.8	54.0	138.0			
	3200	BERN	3	0724.3	0724.7	54.0	.0			OPR
	8400	BERN	4	0840.0	0914.3	77.0	1875.0			
	3200	BERN	4	0903.8	0914.3	52.0	.0			OPR
	8400	BERN	1	0950.0	1004.5	122.0	54.0			
	3200	BERN	1	0950.0	1005.2	122.0	.0			OPR
	8400	BERN	3	1223.5	1225.5	16.5	94.0			
	2800	OTTA	20 GRF	1310.0	1325	90.0	10.2	5.2		
	2800	OTTA	23 GRF	1441.0	1555	160.0	15.0	10.4		
	2800	OTTA	3 S	1504.0	1505	2.5	11.0	3.7		
	2800	OTTA	1 S	1519.5	1520	1.0	2.8	1.4		
	2800	OTTA	1 S	1638.5	1638.7	2.0	5.4	1.8		
	2800	OTTA	1 S	1641.6	1642.5	2.5	6.0	3.0		
	2800	OTTA	21 GRF	1722.0	1845	310.0	10.8	5.4		

SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS

NOVEMBER 1980

DAY OF MONTH	FREQUENCY	STATION	TYPE	STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1}		INT	REMARKS
				UT	UT	MINUTES	PEAK	MEAN		
11	2800	OTTA	4 S/F	1723.0	1724.3	8.0	405.0	42.0		
	2800	OTTA	46F C	1738.8	1745.5	21.0	202.0	72.0		
	2800	OTTA	23 GRF	2049.0	2056	80.0	18.4	9.2		
12	8400	BERN	1	0704.0	0706.5	120.0U	665.0			
	3200	BERN	1	0704.0	0706.5	120.0U	.0			OPR
	3200	BERN	3	1211.3	1211.7	5.0U	.0			OPR
	2800	OTTA	21 GRF	1235.0	1450	330.0	19.0	9.5		
	2800	OTTA	1 S	1547.0	1548	5.0	4.4	2.2		
	2800	OTTA	26 GRF	1700.0	1715	80.0	9.2	4.6		
	2800	OTTA	1 S	1821.8	1822	4.5	2.6	1.6		
	2695	PENT	21 GRF	2020.0	2210	130.0D	13.6			
	2695	PENT	3 S	2152.0	2152.9	4.0	214.0	34.2		
	2695	PENT	3 S	2156.0	2156	8.0	10.4	5.2		
13	3200	BERN	20	0819.5	0830.5	35.0	.0			OPR
	8400	BERN	45	0938.0	0948.5	210.0	427.0			OPR
	3200	BERN	45	0938.2	0946.5	210.0	.0			OPR
	2800	OTTA	23 GRF	1420.0	1446	40.0	4.4	2.4		
	8400	BERN	3	1436.1	1437.3	25.0	34.0			OPR
	3200	BERN	3	1436.1	1437.3	25.0	.0			OPR
	2800	OTTA	1 S	1437.0	1437.7	1.0	2.0	1.4		
	2800	OTTA	20 GRF	1505.0	1540	55.0	8.2	4.4		
	2800	OTTA	20 GRF	1620.0	1625	35.0	5.4	2.8		
	2800	OTTA	20 GRF	1700.0	1737	80.0	15.4	5.2		
	2800	OTTA	20 GRF	1910.0	1942	200.0	32.8	17.0		
14	3200	BERN	20	0734.3	0744.1	55.0	.0			OPR
	3200	BERN	3	1222.6	1225.6	21.0	.0			OPR
	2800	OTTA	21 GRF	1540.0	1600	180.0	17.0	9.0		
	2800	OTTA	4 S/F	1541.0	1543.6	4.5	17.2	6.0		
	2800	OTTA	3 S	1828.0	1831	12.0	174.0	62.2		
	2800	OTTA	30 PBI	1840.0	1840	75.0	18.2	6.1		
	2800	OTTA	3 S	1848.5	1849.5	6.0	14.8	3.8		
	2800	OTTA	260 FAL	2020.0	2100	40.0	-3.8	-1.9		
	2695	PENT	260 FAL	2135.0	2200	25.0	-6.8	-3.4		
15	3200	BERN	4	0659.0U	0701.1	8.0	.0			OPR
	3200	BERN	3	0707.0	0717.5	30.0	.0			OPR
	3200	BERN	22	0941.0	1005.7	40.0	.0			OPR
	3200	BERN	20	1305.0	1340.6	185.0	.0			OPR
	2800	OTTA	45 C	1307.0	1311.5	6.0	13.8	5.6		
	2800	OTTA	1 S	1457.8	1458	3.0	3.0	1.5		
	2800	OTTA	21 GRF	1505.0	1625	340.0D	43.0			
	3200	BERN	3	1516.0	1520.0	8.0D	.0			OPR
	2800	OTTA	8 S	1517.4	1517.6	.8	6.0	3.0		
	2800	OTTA	4 S/F	1519.3	1520.1	2.7	52.0	19.0		
	2800	OTTA	3 S	1540.0	1543.5	22.0	372.0	75.0		
	2800	OTTA	4 S/F	1612.5	1614.5	10.0	173.0	30.0		
	2800	OTTA	1 S	1802.0	1802.2	1.2	7.4	3.7		
	2800	OTTA	46F C	1958.0	2000	3.0	30.0			
16	3200	BERN	4	0858.5	0904.6	244.0	.0			OPR
	8400	BERN	4	0900.6	0904.4	210.0	318.0			
	2800	OTTA	20 GRF	1345.0	1440	180.0	4.2	2.1		
	8400	BERN	21	1427.3	1429.1	29.0	120.0			
	2800	OTTA	4 S/F	1740.5	1742	5.0	42.0	10.5		
	2800	OTTA	1 S	1933.5	1934.5	2.0	4.4	2.2		
	2800	OTTA	21 GRF	1950.0	2040	130.0D	16.0			
	2800	OTTA	4 S/F	2019.0	2022.5	9.0	54.6	21.0		
17	8400	BERN	22	0751.0	0825.5	60.0	14.0			
	3200	BERN	22	0751.0	0807.0	75.0	.0			OPR
	8400	BERN	22	0904.0	0919.0	60.0	24.0			
	3200	BERN	22	0915.0	0919.9	60.0	.0			OPR
	3200	BERN	20	1333.6	1338.2	75.0U	.0			OPR
	8400	BERN	20	1333.6	1337.7	90.0	82.0			
	2800	OTTA	3 S	1336.0	1339	7.0	19.0	12.6		
	2800	OTTA	29 PBI	1343.0	1343	140.0	8.8	6.9		
	2800	OTTA	21 GRF	1630.0	1801	260.0	7.2	3.6		
	2800	OTTA	1 S	2026.5	2027	3.0	4.0	2.0		
18	8400	BERN	4	0717.3	0718.3	93.0	101.0			
	3200	BERN	22	0950.0	0957.0	60.0	.0			OPR
	8400	BERN	22	0953.0	0957.0	60.0	76.0			
	8400	BERN	22	1138.8	1143.0	14.0	10.0			
	3200	BERN	22	1138.8	1142.8	14.0	.0			OPR
	2800	OTTA	20 GRF	1300.0	1340	95.0	5.6			
	8400	BERN	4	1447.5	1451.8	15.0	141.0			
	3200	BERN	4	1447.5	1451.8	15.0	.0			OPR
	2800	OTTA	1 S	1448.7	1449	2.0	7.8	2.6		
	2800	OTTA	1 S	1451.7	1452	1.2	6.2	3.1		
	2800	OTTA	260 FAL	1653.0	1720	27.0	-3.6	-1.8		
	2800	OTTA	20 GRF	1827.0	1835	40.0	2.8	1.8		
	2695	PENT	1 S	2132.0	2133	2.0	2.8	1.4		

SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS
NOVEMBER 1980

DAY OF MONTH	FREQUENCY	STATION	TYPE	STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1}		INT	REMARKS
				UT	UT	MINUTES	PEAK	MEAN		
19	3200	BERN	3	1235.0	1237.5	90.0	.0			OPR
	8400	BERN	3	1235.1	1237.5	90.0	51.0			
	2800	OTTA	20 GRF	1255.0	1320	65.0	7.8	4.2		
	2800	OTTA	1 S	1940.0	1941	2.0	3.8	1.8		
	2695	PENT	1 S	2001.5	2002.3	2.0	3.4	1.6		
	2695	PENT	240AR	2115.0	2155	40.0	8.8			
	2695	PENT	4 S	2122.9	2123	.7	4.4	2.2		
	2695	PENT	22 GRF	2133.0	2146.5	10.0	13.4	10.0		
20	8400	BERN	47	0803.0	0806.2	170.0	531.0			
	3200	BERN	47	0803.6	0806.1	170.0	.0			OPR
	2800	OTTA	20 GRF	1925.0	2000	120.0	4.2	2.1		
	2800	OTTA	22 GRF	2028.0	2047	37.0	3.4	1.7		
21	3200	BERN	22	0741.5	0743.3	90.0	.3			OPR
	3200	BERN	4	0959.0	1001.3	90.0	.0			OPR
	2800	OTTA	1 S	1416.4	1416.7	1.0	5.8	2.0		
	2800	OTTA	21 GRF	1650.0	1720	80.0	4.0			
	2800	OTTA	1 S	1749.0	1751	9.0	1.4	.7		
	2800	OTTA	20 GRF	1840.0	1847	20.0	3.2	1.6		
	2695	PENT	240AR	2055.0	2105	10.0	6.0			
	2695	PENT	1 S	2100.0	2101.5	2.2	4.2	2.1		
22	2800	OTTA	260 FAL	1620.0	1650	30.0	-3.6	-1.8		
23	2800	OTTA	8 S	1459.4	1459.5	.3	7.8			
	2800	OTTA	1A S	1750.0	1755	10.0	4.8	2.0		
	2800	OTTA	1 S	1750.2	1750.6	1.0	7.8	3.9		
	2800	OTTA	4 S/F	1833.0	1857	47.3	68.8	41.4		
	2800	OTTA	30 PSI	1920.0	1920	130.00	30.6			
	2800	OTTA	20 GRF	1950.0	1954	17.0	6.8	3.4		
	2695	PENT	3 S	2117.0	2117.9	2.8	11.8	3.9		
24	3200	BERN	20	0838.5	0843.5	10.0	.0			OPR
	2800	OTTA	21 GRF	1330.0	1355	130.0	13.4	6.7		
	3200	BERN	41	1331.1	1348.3	55.0	.0			OPR
	2800	OTTA	4 S/F	1345.5	1348.4	6.5	16.4	7.0		
	3200	BERN	41	1433.5	1434.0	4.00	.0			OPR
	2800	OTTA	4 S/F	1433.7	1434.3	4.0	39.0	9.8		
	2800	OTTA	1 S	1458.0	1500	6.0	2.8	1.3		
	2800	OTTA	3 S	1700.0	1702	3.5	11.6	5.0		
	2800	OTTA	29 PSI	1703.5	1703.5	16.0	4.6	2.2		
	2800	OTTA	21 GRF	1928.0	1939	42.0	18.6			
	2800	OTTA	4 S/F	1930.0	1930.8	4.5	19.6	9.0		
	2800	OTTA	20 GRF	2030.0	2033.5	17.0	4.6	2.0		
	2800	OTTA	8 S	2056.7	2056.7	.1	12.0			
25	3200	BERN	4	0901.3	0901.3	3.0	.0			OPR
	2800	OTTA	20 GRF	1625.0	1740	140.0	4.0	3.2		
	2800	OTTA	240 R	1935.0	2000	25.0	4.6			
	2695	PENT	21 GRF	2034.0	2110	60.0	4.8	2.4		
	2800	OTTA	1 S	2035.0	2040	10.0	5.4	2.8		
26	2800	OTTA	21 GRF	1435.0	1610	115.0	3.4	1.7		
	2800	OTTA	1 S	1604.0	1604.5	1.0	2.4	1.2		
28	3200	BERN	20	0935.0	0948.1	330.0	.0			OPR
	8400	BERN	20	0944.0	1127.8	200.0	72.0			
	2800	OTTA	1 S	1435.0	1437.3	6.0	8.6	3.0		
29	2800	OTTA	21 GRF	1435.0	1442	13.0	3.8	1.7		
	2800	OTTA	3 S	1440.5	1441	1.5	14.6	5.0		
	2800	OTTA	23 GRF	1555.0	1630	180.0	11.2	5.6		
	2800	OTTA	1 S	1617.8	1617.9	1.0	7.8			
	2695	PENT	22 GRF	2100.0	2112	85.0	7.8			
30	2800	OTTA	20 GRF	1535.0	1600	40.0	2.0	1.2		
	2800	OTTA	22 GRF	1635.0	1722	90.0	2.0	1.0		
	2800	OTTA	1 S	1830.0	1835	10.0	2.4	1.2		
	2800	OTTA	2 S/F	1955.3	1955.5	1.0	3.8	1.9		
	2695	PENT	24 R	2008.0	2016	8.0	10.2	5.1		
	2695	PENT	27 RF	2008.0		112.0	10.2	7.6		
	2800	OTTA	24P R	2016.0		54.0	10.2			
	2695	PENT	26 FAL	2110.0	2200	50.0	-10.2	-5.1		

Observatories:

BERN = Berne MANI = Manila OTTA = Ottawa ARO PENT = Penticton SGMR = Sagamore Hill

Explanation of Type Code:

1 Simple 1
2 Simple 1F
3 Simple 2
4 Simple 2F
5 Simple
6 Minor
7 Minor +
8 Spike
20 Simple 3
21 Simple 3A
22 Simple 3F
23 Simple 3AF
24 Rise
25 Rise A
26 Fall
27 Rise and Fall
28 Precursor
29 Post Burst Increase
30 Post Burst Increase A
31 Post Burst Decrease
32 Absorption
40 Fluctuation
41 Group of Bursts
42 Series of Bursts
43 Onset of Noise Storm
44 Noise Storm in Progress
45 Complex
46 Complex F
47 Great Burst
48 Major
49 Major +

SELECTED SOLAR NOISE BURSTS

NOVEMBER 5 - 6, 1980

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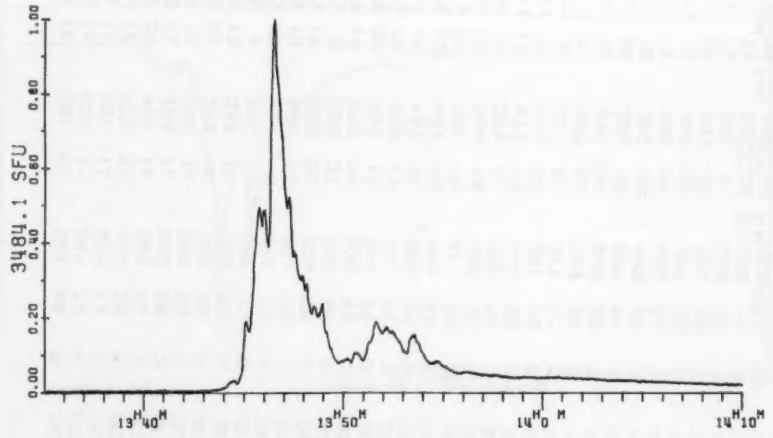
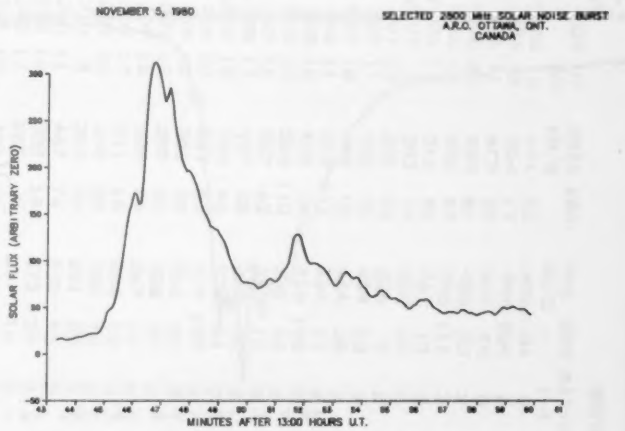
I19.6, F=19.6 GHZ, BW=600.0 MHZ, T=1.0 SEC

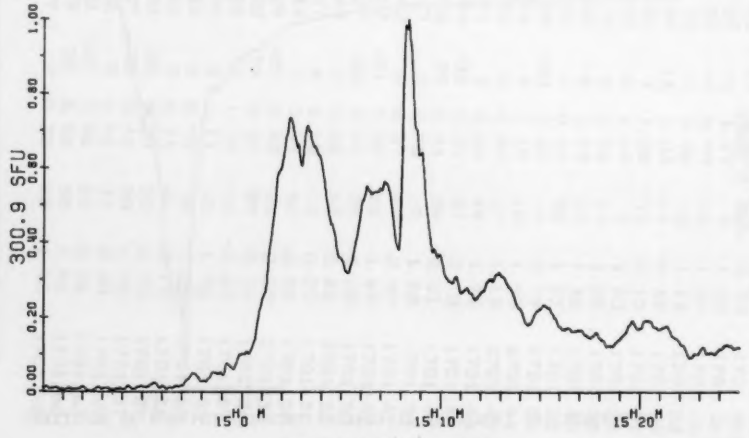


UT ON NOV. 5 1980

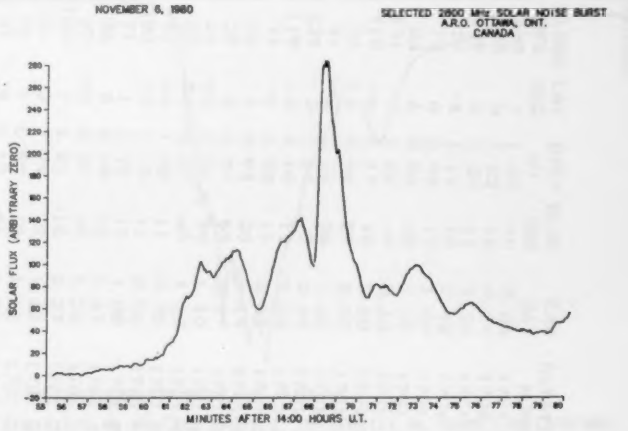


INSTITUTE OF APPLIED PHYSICS, UNIVERSITY OF BERNE, SWITZERLAND

I 5.2, F=5.2 GHZ, BW=100.0 MHZ, T=1.0 SEC



UT ON NOV. 6 1980

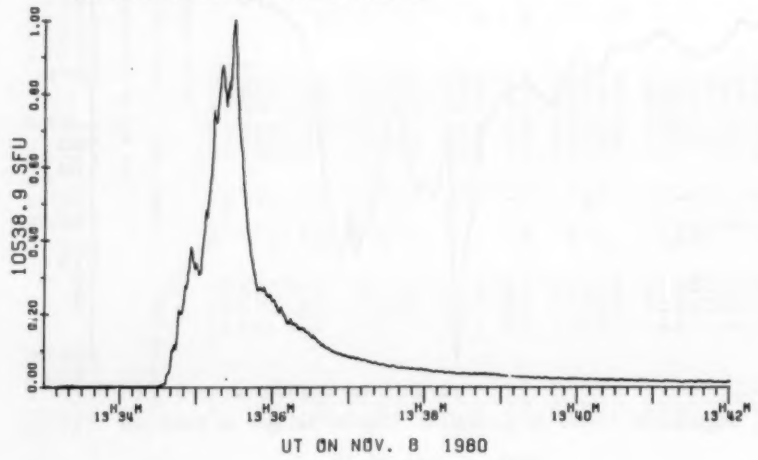


SELECTED SOLAR NOISE BURSTS

NOVEMBER 8 - 20, 1980

INSTITUTE OF APPLIED PHYSICS, UNIVERSITY OF BERNE, SWITZERLAND

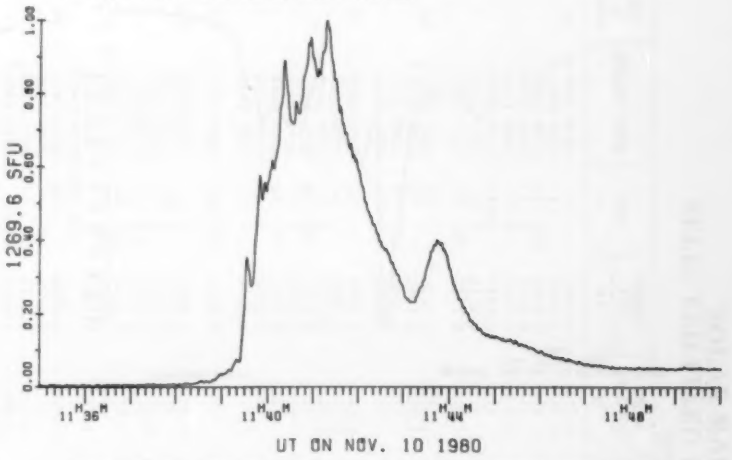
I35.0, F=35.0 GHZ, BW=1000.0 MHZ, T=0.1 SEC



UT ON NOV. 8 1980

INSTITUTE OF APPLIED PHYSICS, UNIVERSITY OF BERNE, SWITZERLAND

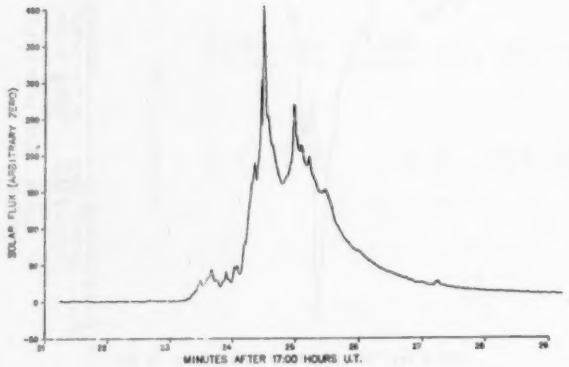
I11.8, F=11.8 GHZ, BW=250.0 MHZ, T=1.0 SEC



UT ON NOV. 10 1980

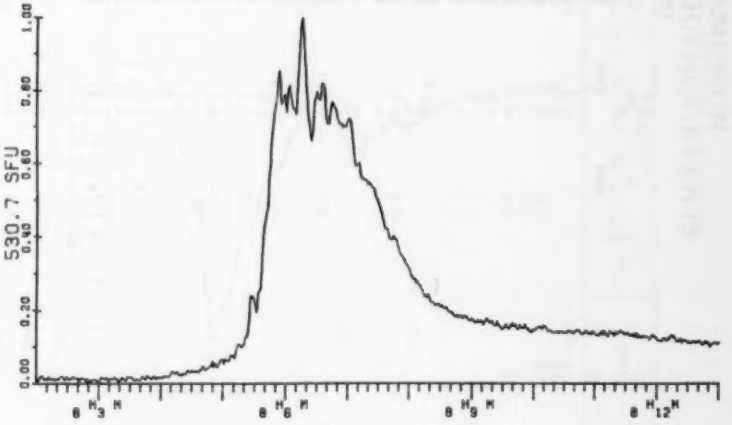
NOVEMBER 11, 1980

SELECTED 2800 MHz SOLAR NOISE BURST
A.R.O. OTTAWA, ONT.
CANADA



INSTITUTE OF APPLIED PHYSICS, UNIVERSITY OF BERNE, SWITZERLAND

I 8.4, F=8.4 GHZ, BW=6.0 MHZ, T=1.0 SEC



UT ON NOV. 20 1980

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DATE

SOLAR WIND

Interplanetary Scintillations

NOVEMBER 1980

DATE	DOY	UT HR	VMID KM/S	ERR	VPK KM/S	ERR	RATING 1-4	SOURCE	ELONG DEG	LAT DEG	DIST AU	DLON DEG	LAG DAY	ROTATION NUMBER
B01101	306	5	471	55	436	34	2	3C459	132	7	1.22	-10	0.06	1701.20
	306	8	304	17	444	234	2	3C144-	135	3	1.23	10	2.14	1701.05
	306	11	649	54	601	14	3	3C144	135	3	1.23	11	1.45	1701.20
	306	12	453	81	486	23	2	3C161	117	-4	1.17	10	1.42	1701.15
	306	15	358	45	346	115	2	3C222	75	0	0.97	17	1.09	1701.13
	306	17	316	48	267	13	2	3C273	33	6	0.54	58	1.69	1701.09
B01102	307	5	303	79	358	10	2	3C459	131	7	1.22	-9	0.60	1701.14
	307	12	235	54	326	9	2	3C161	118	-4	1.17	10	2.08	1701.03
	307	17	482	15	409	13	3	3C273	34	6	0.56	57	2.58	1701.17
	307	18	448	18	464	38	2	3C283	21	-42	0.36	58	1.68	1701.19
B01103	308	11	595	157	424	11	2	3C144	137	3	1.24	9	1.42	1701.26
	308	12	405	34	418	198	2	3C161	119	-4	1.18	11	1.62	1701.20
	308	15	365	110	538	53	2	3C222	77	-1	0.98	17	1.11	1701.21
	308	16	307	62	265	10	2	3C237	70	1	0.94	20	1.14	1701.17
	308	17	407	28	323	18	2	3C273	35	5	0.57	55	2.17	1701.19
	308	18	364	41	374	54	2	3C283	21	-40	0.36	58	1.10	1701.21
	308	20	339	65	519	199	2	3C298	22	51	0.37	60	1.10	1701.20
B01104	309	2	301	20	306	42	2	3C409	91	16	1.05	-11	-0.58	1701.25
	309	12	259	21	328	23	2	3C161	120	-4	1.18	11	2.06	1701.13
	309	16	324	53	367	16	2	3C237	71	1	0.95	19	1.08	1701.22
	309	17	311	14	284	13	3	3C273	36	5	0.59	55	1.67	1701.19
	309	18	388	22	402	12	2	3C283	22	-38	0.37	58	1.34	1701.25
B01105	310	5	354	50	351	23	2	3C459	128	7	1.21	-10	0.27	1701.29
	310	11	467	74	610	95	2	3C144	139	3	1.24	9	1.62	1701.29
	310	16	330	14	375	39	3	3C237	72	1	0.95	18	1.03	1701.26
	310	17	282	9	267	18	3	3C273	37	5	0.60	54	1.43	1701.22
	310	18	427	20	468	35	2	3C283	23	-37	0.39	57	1.63	1701.29
	310	20	298	95	318	12	2	3C298	23	47	0.39	60	0.73	1701.26
B01106	311	12	527	29	489	47	2	3C161	122	-4	1.19	9	1.32	1701.36
	311	15	287	37	275	44	2	3C222	80	-1	0.99	18	1.24	1701.26
	311	15	432	70	397	38	2	3C237	73	1	0.96	18	1.15	1701.35
B01107	312	2	356	103	401	82	2	3C409	89	16	1.04	-11	-0.68	1701.39
	312	4	398	28	405	29	2	3C459	126	7	1.20	-11	0.10	1701.39
	312	12	385	80	462	92	2	3C161	122	-5	1.19	9	1.53	1701.34
	312	15	357	35	356	45	2	3C237	74	0	0.96	17	1.08	1701.35
B01108	313	12	443	130	576	98	2	3C161	123	-5	1.19	11	1.56	1701.40
	313	17	246	57	234	33	2	3C273	40	4	0.64	50	1.07	1701.30
	313	18	311	21	311	21	2	3C283	25	-33	0.42	-4	-3.79	1701.54
B01109	314	12	440	31	521	13	2	3C161	124	-5	1.19	10	1.53	1701.44
	314	15	411	16	399	38	3	3C237	76	0	0.97	17	1.15	1701.45
	314	16	364	11	339	18	3	3C273	41	4	0.66	49	1.93	1701.40
	314	18	499	15	482	37	3	3C283	26	-32	0.44	57	2.18	1701.44
	314	20	427	10	417	18	3	3C298	26	39	0.44	59	2.01	1701.43
B01110	315	15	454	69	469	21	2	3C237	77	0	0.98	19	1.28	1701.50
	315	16	491	90	346	28	2	3C273	42	4	0.67	49	2.42	1701.47
	315	18	408	14	467	21	3	3C283	27	-31	0.45	55	1.65	1701.47
	315	20	341	10	374	16	3	3C298	27	38	0.45	39	-0.08	1701.50
B01111	316	16	623	69	579	44	2	3C273	43	3	0.68	48	2.62	1701.52
B01112	317	4	284	31	255	98	2	3C459	121	6	1.18	-12	0.27	1701.50
	317	16	553	29	559	22	3	3C273	44	3	0.69	48	2.54	1701.55
	317	18	515	19	487	18	3	3C283	29	-29	0.48	55	2.30	1701.55
	317	20	429	9	469	13	4	3C298	28	35	0.47	59	2.10	1701.54
B01113	318	4	349	79	366	12	2	3C459	120	6	1.18	-12	-0.03	1701.59
	318	13	335	12	253	105	2	3C216	104	8	1.11	15	1.72	1701.53
	318	15	545	62	544	58	2	3C237	80	0	0.99	18	1.28	1701.63
	318	16	422	19	396	20	2	3C273	45	3	0.71	46	2.18	1701.56
	318	17	489	17	505	28	3	3C283	30	-28	0.50	53	2.10	1701.59
	318	20	401	19	434	47	3	3C298	29	33	0.48	58	1.95	1701.57
B01114	319	16	427	27	394	35	2	3C273	46	3	0.72	44	2.08	1701.60
	319	17	521	17	502	17	2	3C283	31	-27	0.52	53	2.26	1701.63
	319	19	403	11	391	15	4	3C298	29	32	0.48	58	1.97	1701.60
B01115	320	16	381	47	397	49	2	3C273	47	3	0.73	43	1.93	1701.63

SOLAR WIND

Interplanetary Scintillations

NOVEMBER 1980

DATE	DOY	UT HR	VMID KM/S	ERR	VPK KM/S	ERR	RATING 1-4	SOURCE	ELONG DEG	LAT DEG	DIST AU	DLON DEG	LAG DAY	ROTATION NUMBER
	320	17	577	82	571	81	2	3C283	32	-26	0.53	53	2.46	1701.67
801116	321	4	449	48	387	53	2	3C459	117	6	1.17	-12	-0.28	1701.75
	321	11	310	10	322	11	2	3C161	130	-5	1.21	7	1.80	1701.62
	321	16	494	26	448	103	2	3C273	48	2	0.74	43	2.22	1701.69
	321	17	301	12	309	10	2	3C283	32	-26	0.53	53	1.09	1701.65
801117	322	11	494	28	449	95	2	3C161	130	-5	1.21	8	1.39	1701.75
	322	16	351	13	419	24	2	3C273	49	2	0.75	42	1.82	1701.69
	322	17	364	12	408	30	2	3C283	33	-25	0.54	53	1.63	1701.70
	322	19	396	28	304	60	3	3C298	32	28	0.53	55	1.89	1701.71
801118	323	11	407	92	365	77	2	3C161	131	-5	1.22	8	1.56	1701.75
	323	17	394	*	426	*	2	3C283	34	-24	0.56	51	1.72	1701.75
	323	19	385	*	398	*	2	3C298	32	27	0.53	55	1.83	1701.74
801119	324	16	232	18	350	65	2	3C273	51	2	0.78	39	1.15	1701.69
	324	19	298	22	341	47	2	3C298	33	26	0.54	54	1.18	1701.75
801120	325	2	394	72	411	83	3	3C446	98	5	1.08	-16	-0.86	1701.89
	325	3	486	12	494	33	3	3C459	113	6	1.15	-13	-0.42	1701.92
	325	16	297	32	327	26	2	3C273	52	2	0.79	39	1.61	1701.77
	325	17	361	24	369	12	3	3C283	36	-23	0.59	51	1.66	1701.81
	325	19	353	19	356	9	3	3C298	34	25	0.56	54	1.70	1701.81
801121	326	11	392	89	477	114	2	3C161	133	-6	1.22	7	1.54	1701.86
	326	16	536	17	485	22	4	3C273	53	2	0.80	38	2.14	1701.89
	326	17	438	17	461	18	3	3C283	37	-22	0.60	49	1.96	1701.87
	326	19	403	25	375	9	3	3C298	35	24	0.57	53	1.97	1701.86
801122	327	4	490	74	498	44	2	3C459	111	6	1.14	-13	-0.46	1701.99
	327	11	477	15	551	54	2	3C161	134	-6	1.23	7	1.40	1701.93
	327	16	444	13	436	33	3	3C273	54	1	0.81	36	1.87	1701.91
	327	17	454	30	438	23	3	3C283	38	-22	0.62	48	2.04	1701.91
	327	19	323	12	352	10	3	3C298	36	23	0.59	52	1.51	1701.87
801123	328	11	329	19	331	36	2	3C161	135	-6	1.23	7	1.77	1701.89
	328	16	462	12	455	19	3	3C273	55	1	0.82	36	1.96	1701.95
	328	17	393	11	393	11	4	3C283	39	-21	0.63	47	1.78	1701.93
	328	19	338	9	376	10	3	3C298	37	22	0.60	51	1.62	1701.91
801124	329	3	501	30	515	31	3	3C459	109	6	1.13	-13	-0.53	1702.07
	329	10	389	42	403	9	2	3C161	136	-6	1.23	7	1.58	1701.96
	329	14	359	93	368	30	2	3C237	91	-1	1.05	18	1.56	1701.96
	329	15	488	18	441	16	2	3C273	56	1	0.83	35	1.95	1701.99
	329	17	421	13	413	13	4	3C283	40	-20	0.64	46	1.87	1701.98
	329	19	346	9	353	9	3	3C298	37	21	0.60	51	1.67	1701.95
801125	330	3	591	53	579	14	2	3C459	108	5	1.13	-13	-0.65	1702.13
	330	10	444	87	730	48	2	3C161	136	-6	1.23	7	1.49	1702.03
	330	16	622	22	485	17	2	3C273	57	1	0.84	34	2.08	1702.06
	330	17	404	13	473	18	2	3C283	41	-20	0.66	45	1.76	1702.01
	330	17	387	34	375	12	2	3C295	77	16	0.98	10	0.65	1702.04
801126	331	3	385	23	376	8	2	3C459	107	5	1.12	-13	-0.44	1702.10
	331	10	503	14	525	9	3	3C161	137	-6	1.24	6	1.30	1702.09
	331	11	684	20	632	71	2	3C196	125	7	1.20	10	1.30	1702.12
	331	15	418	50	444	65	2	3C273	58	1	0.85	34	1.84	1702.05
	331	16	436	21	416	29	3	3C283	42	-19	0.67	45	1.94	1702.05
801127	332	10	443	42	613	31	2	3C161	138	-6	1.24	6	1.41	1702.10
	332	18	403	57	376	53	2	3C298	40	19	0.64	48	1.97	1702.08
801128	333	10	586	84	555	61	2	3C161	138	-6	1.24	6	1.14	1702.18
	333	15	582	16	589	16	2	3C273	60	1	0.87	31	1.88	1702.16
	333	16	472	58	426	13	2	3C283	44	-18	0.69	43	2.04	1702.13
	333	19	390	25	427	10	2	3C298	41	18	0.66	47	1.90	1702.11
801129	334	3	318	16	378	168	2	3C459	104	5	1.11	-14	-0.47	1702.17
	334	11	478	27	344	39	2	3C196	127	6	1.20	11	1.56	1702.18
	334	15	642	33	620	15	2	3C273	61	0	0.87	30	1.87	1702.21
	334	16	396	18	427	41	3	3C283	45	-18	0.71	43	1.82	1702.15
	334	19	411	8	383	7	2	3C298	42	17	0.67	47	1.99	1702.15
801130	335	1	442	15	457	31	2	3C446	88	4	1.03	-16	-1.10	1702.29
	335	3	517	15	507	19	2	3C459	103	5	1.11	-14	-0.72	1702.30
	335	15	439	11	402	25	3	3C273	62	0	0.88	28	1.60	1702.21
	335	16	363	12	363	11	4	3C283	45	-18	0.71	43	1.69	1702.18
	335	18	375	11	380	20	4	3C298	43	17	0.68	46	1.86	1702.18

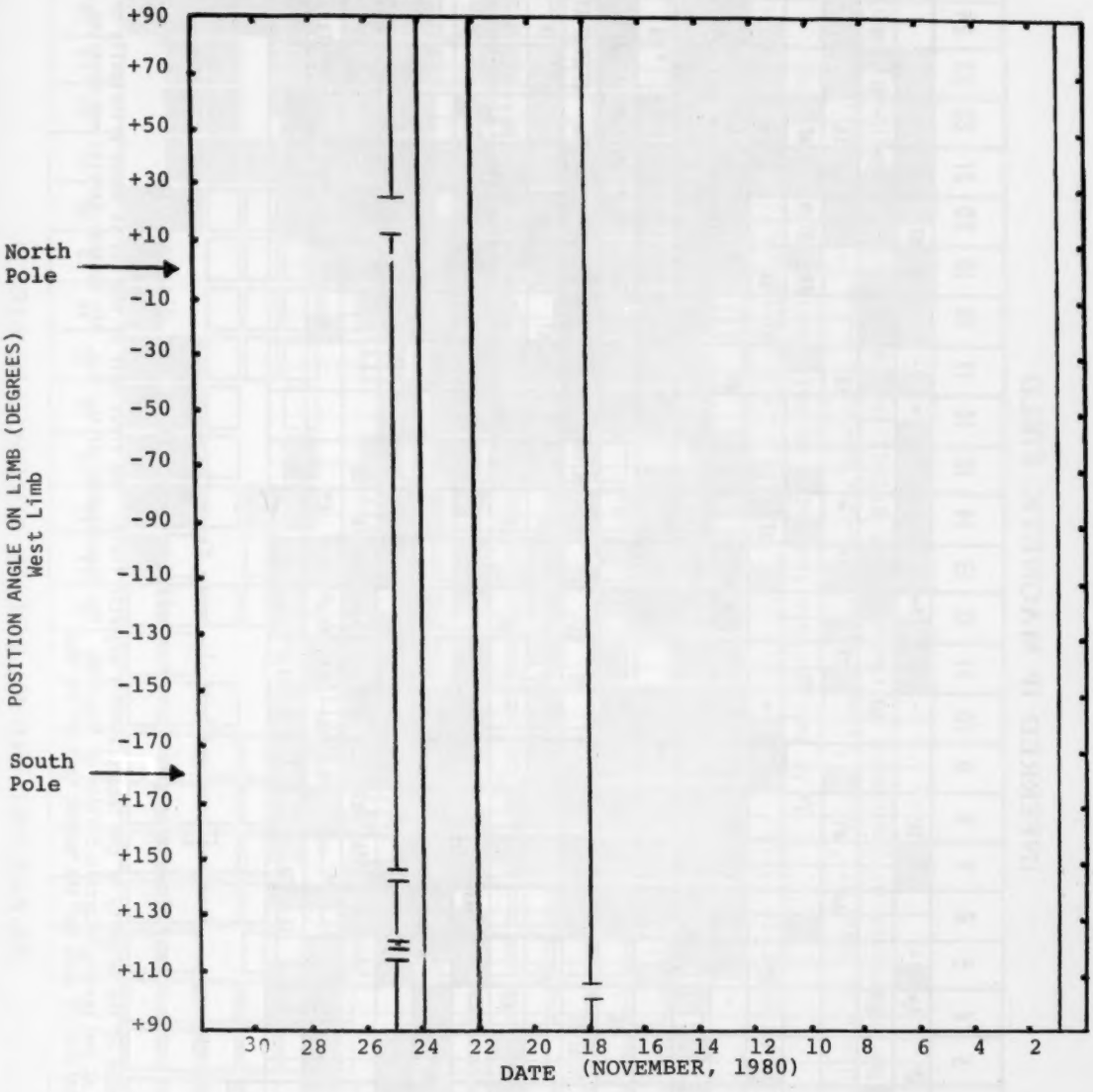
VMID IS A MEAN AND VPK IS A MAXIMUM VELOCITY IN THE IPS SCATTERING REGION.
THE REGION'S CENTROID IS SPECIFIED BY LAT, DIST, DLON.
LAG AND ROTATION NUMBER GIVE MAPPING TO EARTH AND SUN AT VMID.
* INDICATES NO ERROR AVAILABLE, SINCE ONLY TWO ANTENNAS WERE OPERATING.

CORONAL HOLES

Helium D3 Chromosphere at Solar Limb

NOVEMBER 1980

Big Bear Solar Observatory



INFERRED IP MAGNETIC FIELD

BARTELS ROTATION	DATE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
1996	AUG 1			AT		A*	-		TA	-	-	-	T*				*	-			AT					AT	*	
1997	AUG 28			-	A*						AT							-		-		T*	-	AT	TA	-		TA	AT
1998	SEP 24						A*		AT	-		TA		A*	*			TA		-			TA			TA		TA	-	*
1999	OCT 21								T*			TA	-		-					AT	AT	*	AT						
2000	NOV 17	-	TA	-		AT					*				AT				AT	-	TA	-	TA		-	-		
2001	DEC 14				-				TA		TA	-	-	AT	-			AT		AT	*		TA	AT	T*			-
2002	1980 JAN 10						AT	-		-			-	TA	AT		T*	TA	AT							TA	A*	
2003	FEB 6		TA			-				A*							TA					-			*	TA	TA		
2004	MAR 4		AT		TA		AT	-	-	TA		-			T*		AT	AT		TA			AT	AT	TA			TA	-	-
2005	MAR 31		TA	AT	AT	AT		AT	TA		T*		AT			TA	TA				TA		TA		AT	AT	AT	TA	TA	
2006	APR 27		AT				AT	-				TA	AT		TA			TA	AT	AT						TA	AT	*		TA
2007	MAY 24			AT		AT			*	*	-	-	-	-	TA		AT			*	TA			-	TA			-	TA	
2008	JUN 20		-					AT			-	-			-	-							TA		TA		TA			
2009	JUL 17		-	AT		-						-			TA	TA		-	AT	AT		-		-		-	-	A*	-	-
2010	AUG 13		AT					-	AT	-						-			-	AT				TA			A*		
2011	SEP 9							TA		AT					TA		TA									TA			
2012	OCT 6							*		TA	TA		AT	A*		A*						TA			TA				
2013	NOV 2	AT					TA	TA													-	TA	-	AT		TA			
2014	NOV 29																												

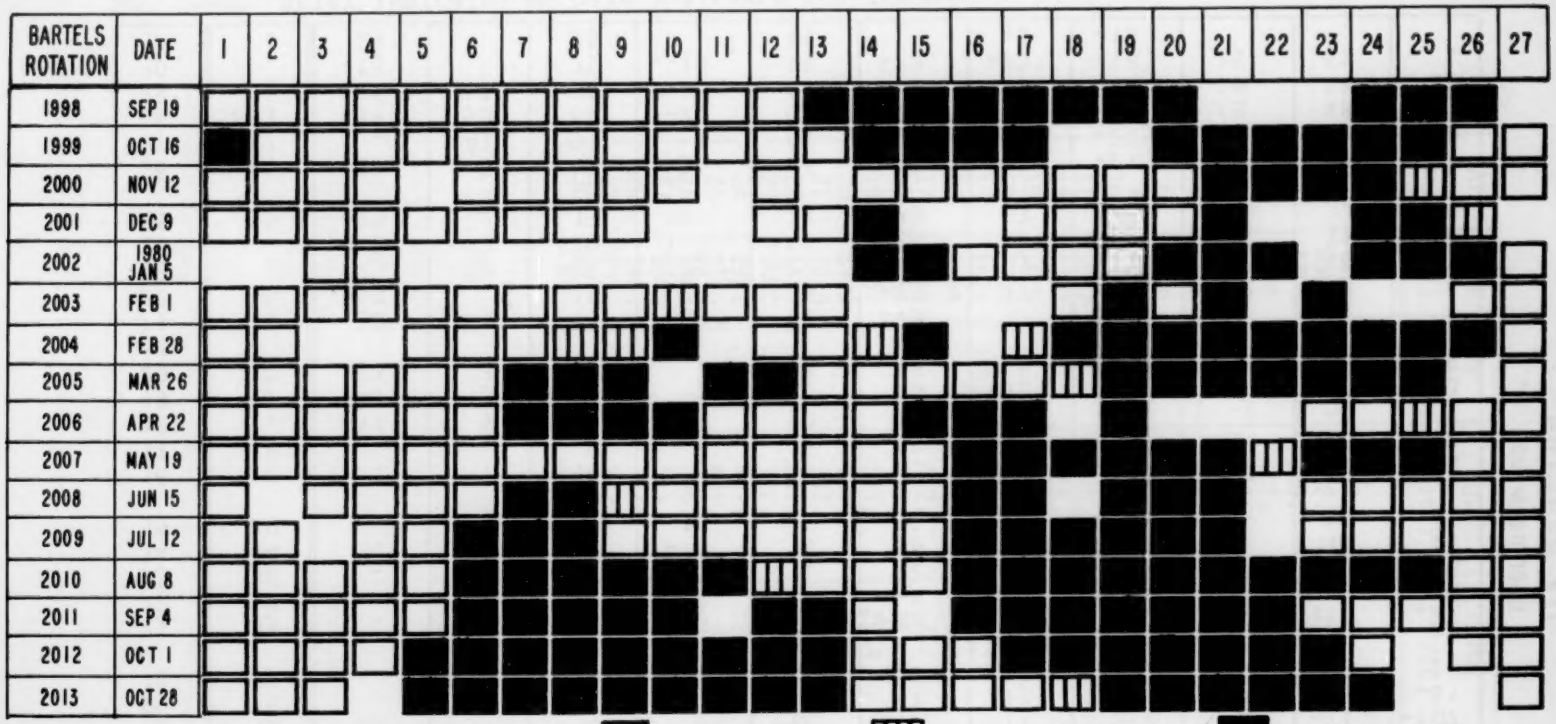
▒ = definitely towards the sun □ = definitely away from the sun

T = towards the sun A = away from the sun * = effect doubtful or not discernible - = missing data

The table shows daily inferences of the polarity of the interplanetary magnetic field. The first half of the day is based principally on magnetograms produced by the magnetometer at the Vostok Antarctic Station of the USSR. The magnetometer of the U.S. Air Weather Service now operated at Thule by the Danish Meteorological Institute is used for the second half of the day.

STANFORD MEAN SOLAR MAGNETIC FIELD

STANFORD MEAN SOLAR MAGNETIC FIELD



POLARITY OF THE MEAN SOLAR MAGNETIC FIELD: ☐ = FIELD >2μT, ▥ = -2μT ≤FIELD ≤2μT, ■ = FIELD <-2μT

No box visible indicates no data available for that day.

NOTE: Data are taken daily at 2000 UT. Dates given are not Bartels Rotation dates. These earlier dates correspond to the occurrence of phenomena on the Sun that affect the Earth during the given Bartels Rotation.

STANFORD MEAN SOLAR MAGNETIC FIELD (MICROTESLA)

1979 1980

DAY	DEC.	JAN.	FEB.	MARCH	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.
01	16	-37	94	.	-10	-7	37	-51	-5	-19	44	-41
02	-3	-28	96	.	-26	9	13	.	.	5	59	-94
03	-24	1	87	50	-21	26	-16	-25	8	8	53	-120
04	-18	.	72	53	.	55	-45	-23	7	29	26	-123
05	-6	.	72	12	-44	21	-57	-19	10	42	-4	-111
06	-1	.	57	-1	-17	-13	-42	.	24	42	-36	-84
07	18	54	49	1	9	-34	-25	8	53	23	-62	-99
08	35	59	31	-8	4	-42	-11	11	53	9	-73	-107
09	75	.	10	.	7	.	-1	13	44	-27	-72	-61
10	99	.	0	9	7	-17	-6	23	37	-68	-39	28
11	83	.	10	21	5	.	-18	44	27	-77	-41	27
12	60	.	11	1	2	.	-4	42	8	-84	-45	38
13	32	.	3	-7	-15	.	12	34	-37	-62	-10	26
14	44	.	.	.	-18	5	56	.	-63	.	10	-1
15	29	.	.	-2	-12	5	54	57	-65	-39	38	-21
16	20	.	.	-10	-14	-1	.	26	-56	-16	20	-50
17	18	.	.	-9	-8	16	63	-42	-44	7	-15	-68
18	.	-17	5	-8	-10	50	71	-69	-24	.	-8	-81
19	.	-8	-13	-18	-5	73	55	-43	1	-18	-2	-63
20	7	33	3	-42	.	78	15	5	23	-38	-16	-24
21	6	32	-7	-41	30	92	-40	32	24	-31	-14	.
22	-6	10	.	-39	95	120	-43	47	11	-15	-17	.
23	.	3	-32	-24	113	122	-1	53	-11	-7	-8	97
24	.	-12	.	-20	113	46	33	57	-31	-22	31	80
25	35	-25	.	13	100	14	49	53	-38	-21	.	70
26	40	-31	6	43	56	25	37	27	-27	8	54	31
27	27	.	43	53	8	64	46	-8	-27	18	52	28
28	23	-34	58	64	-27	57	54	-33	-18	18	48	-3
29	-18	-26	57	84	-28	62	6	-42	-14	18	44	-26
30	.	-13		75	-16	49	-22	-29	-18	25	57	.
31	.	29		25		49		-6	-10		.	

DOT SYMBOL ENTRY INDICATES NO DATA AVAILABLE FOR THE DAY.

PIONEER XII

NOVEMBER 1980

DATE NOV 80	TIME (UT)	ESV (°)	U_{H+} (Km/sec)	N_{H+} (H^+/CC)	T_{H+} ($\times 10^6$°K)
1	2120	087.1	437.	7.6	0.16
2	0502		392.	12.	.163
3	1305		330.	23.8	.036
4	1505		268.	89.9	.015
5	1912		441.	37.8	.347
6	1849		536	9.17	.374
7	2209		479.	13.7	.259
8	1206		463.	9.9	.082
9	1219		364.	24.1	.017
10	1600		341.	37.4	.016
11	1847		390.	26.7	.107
12	1257		465.	26.8	.1
13	1425		405.	25.1	.064
14	1708		357.	18.8	.114
15	1521	095.8	868.	57.7	.078
16	1554		559.	0.85	.038
17	1555		542.	7.7	.157
18	1957		476.	12.	.247
19	2157		523.	25.4	.025
20	1922		373.	15.6	.007
21	1918		397.	12.6	.045
22	1655		361.	20.7	.234
23	0331		322.	19.3	.236
24	1901		489.	11.	.239
25	2156		485.	9.2	.113
26	1508		396.	34.7	.048
27	1609		554.	17.1	.315
28	1406		577.	7.5	.171
29	1928		542.	16.3	.094
30	1257		476.	16.6	.025

BOULDER GEOMAGNETIC SUBSTORM LOG

NOVEMBER 1980

DATE	ONSET TIME	DIR	COMMENTS
11/01			Oval stations active 0600-1800 UT with numerous minor injections.
	0955	West	Slow onset.
	1445		Slow onset.
11/02			Field intermittently unsettled with no distinctive SS activity.
11/03	-	-	Field intermittently unsettled.
	0855	-	Weak SS Alaska only.
11/04	1000	East	Moderate SS, strongest at Lynn Lake.
11/05	-	-	Field essentially quiet.
11/06	-	-	Field intermittently unsettled.
11/07	-	-	Field slightly unsettled through 0600 UT then quiet balance of day.
11/08	-	-	Field essentially quiet.
11/09	1122	-	Weak positive impulse H-component all mid/low latitude stations.
	1605	-	Slow onset, slow expansion northward through Alaska.
11/10	1010		SS along auroral oval only.
	1310		SS along auroral oval only.
11/11	0815	West	Moderate SS along auroral oval.
	1720		Moderate SS, several injections with recovery near 1200 UT.
11/12	0815	West	Slow onset, several injections with recovery near 2100 UT.
11/13			Field slightly unsettled.
11/14	1105		SS along auroral oval, several injections with recovery near 1315 UT.
	1510		SS predominantly in Alaska.
11/15			Field moderately active 0800-1800 UT.
	0420	East	
	0810	East	
	1050	West	
	1310	West	Several injections with recovery near 1730 UT.
11/16			Field active 0700-1800 UT.
	0910		SS predominantly in Alaska.
	1410		SS predominantly in Alaska.
11/17	0615		SS localized Ft. Smith.
	1010		Weak SS, slow onset.
	1150		SS along auroral oval stations only.
11/18	0615	East	
	1015	West	
	1210	West	Several injections with recovery near 1530 UT.
11/19	0825	West	Several injections with recovery near 1100 UT.
	1100	West	
	1500		Slow expansion northward through Alaska.
11/20	0810	West	
	1255		SS localized in vicinity of College.
	1400		Weak SS, numerous minor injections with recovery near 1800 UT.
	2020		Sharp negative impulse H-component all mid/low latitude stations.
11/21			Field intermittently unsettled.
	0420	East	
11/22			Field slightly unsettled.
11/23			Field unsettled after 1600 UT.
11/24			Field intermittently unsettled with no distinctive SS activity.
	2258	SSC	
11/25	1320	West	
	1415	West	Alaskan Polar Cap and mid/low latitude stations became unsettled after 2200 UT.
11/26	0025		Negative impulse H-component all mid/low latitude stations. Displacement stronger over Pacific stations. Field unsettled through 1800 UT.
	0425		Sharp, short-lived positive impulse H-component all mid/low latitude stations.
	1130	West	Strong SS, sharp onset.
11/27	0645	East	
	0850	West	
	1055		Slow onset, numerous injections wih field recovery near 1545 UT
11/28	0110	East	Boulder in partial ring current sector.
	0640	≈ center	Weak SS
	0810	West	Weak SS
	0930	West	
	1130	West	
	1250		Polar Cap SS, Alaskan network.
11/29	0715	West	Moderate SS
	1110	West	Moderate SS
	1210	West	Moderate SS
11/30	0200	East	Weak SS
	1205	West	
	1745		Weak SS, Alaskan chain.

OCTOBER 1980 DATA

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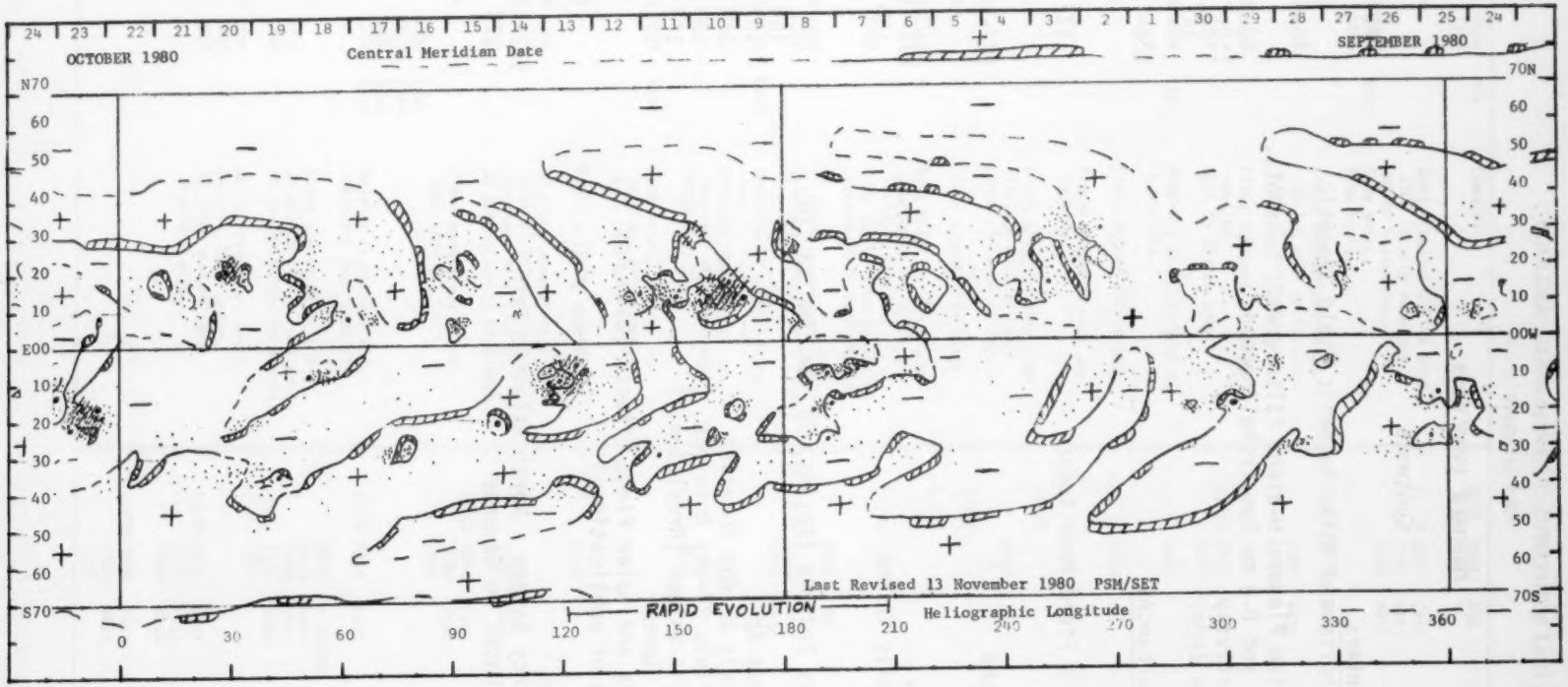
Hα SYNOPTIC CHART

CARRINGTON ROTATION 1700 (PRELIMINARY)



SOLAR MAGNETIC FIELD SYNOPTIC CHART

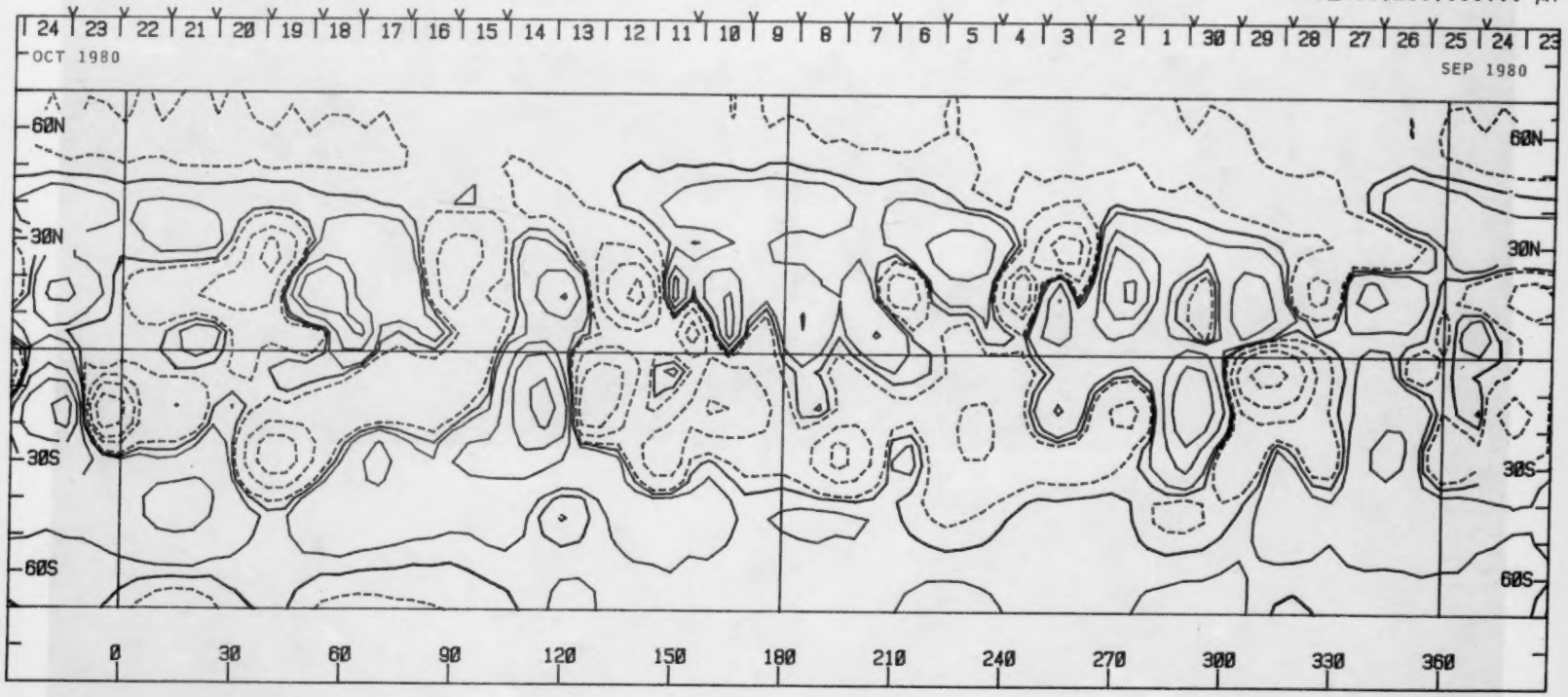
CARRINGTON ROTATION 1700

SOLAR MAGNETIC FIELD SYNOPTIC CHART

CARRINGTON ROTATION 1700

Stanford Solar Observatory

0,±100,200,500... μT



47
Oct 80

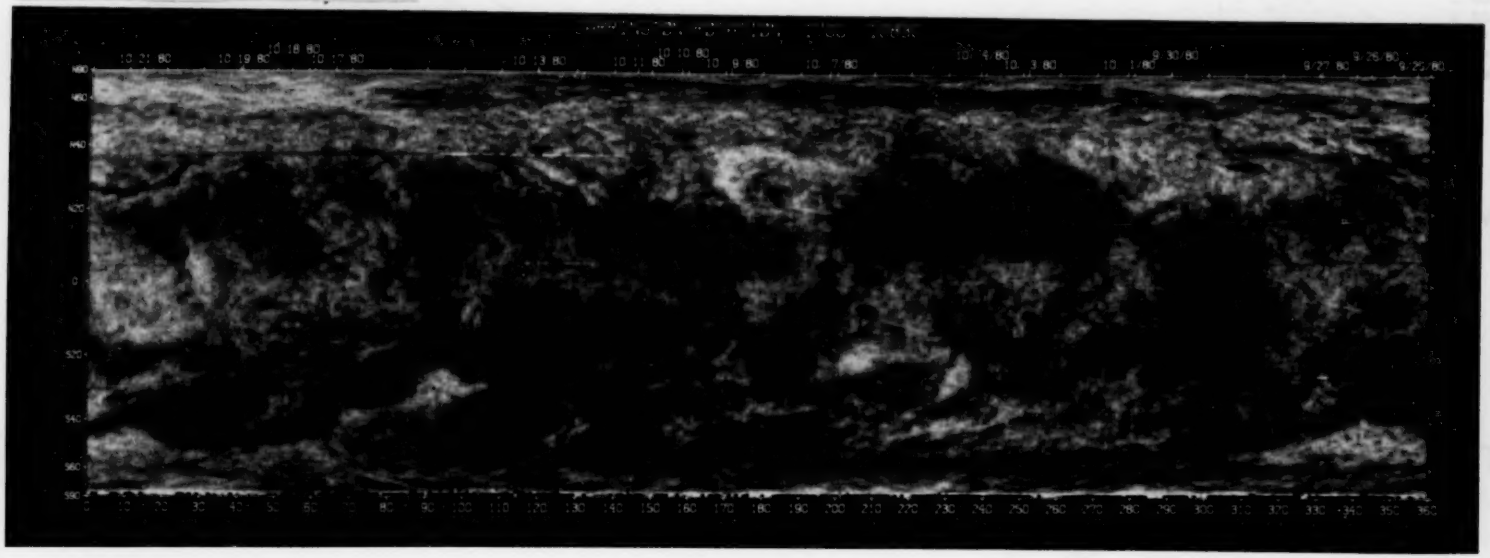
HELIUM 10830Å SYNOPTIC MAPS

CARRINGTON ROTATION 1708

HELIUM 10830Å SYNOPTIC MAPS

CARRINGTON ROTATION 1700

KITT PEAK NATIONAL OBSERVATORY



OCTOBER 1, 1980 (P = 26.02, B_o = 6.70, L_o = 287.24)

SACRAMENTO PEAK Np CORONA (1.15 $R_\odot$)
5303 Å

E NO DATA OCTOBER 1, 2, 6, 7, 13, 14, 15, 16, 18, 19, 20, 25, 26 W

KITT PEAK Np MAGNETOGRAM
Bright - Plus
Dark - Minus

E NO DATA OCTOBER 1, 2, 14, 15, 16 W

Sp

Sp
Np
MT. WILSON MAGNETOGRAM
Solid-Plus
Dotted-Minus
DELTAY = 12.6
DELTAX = 9.5

E W

Levels
± 5
± 10
± 20
± 40
± 80

17.91-19.39 UT

Sp

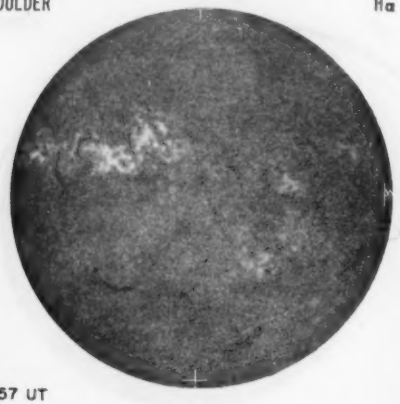
01
BOULDER Np Hα SAN FERNANDO Np SUNSPOTS HALE OBSERVATORIES Np CALCIUM REPORT

OI

BOULDER

Np

Hα



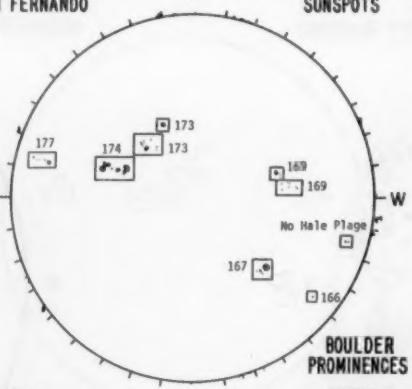
E W

1557 UT

Sp

SAN FERNANDO

Np



E W

1845 UT

Sp

SUNSPOTS

HALE OBSERVATORIES

BOULDER PROMINENCES

Np

E W

1557 UT

Sp

CALCIUM REPORT

NO DATA OCTOBER 1, 7, 16, 20, 25, 28

E W

Sp

NOSC LA POSTA

Np

2.0 CM

NO DATA

EQUIPMENT

E W

---- UT

Sp

Ant. Temp. Unit 100° K

NOSC LA POSTA

Np

8.6 MM

NO DATA

EQUIPMENT

E W

---- UT

Sp

Ant. Temp. Unit 100° K

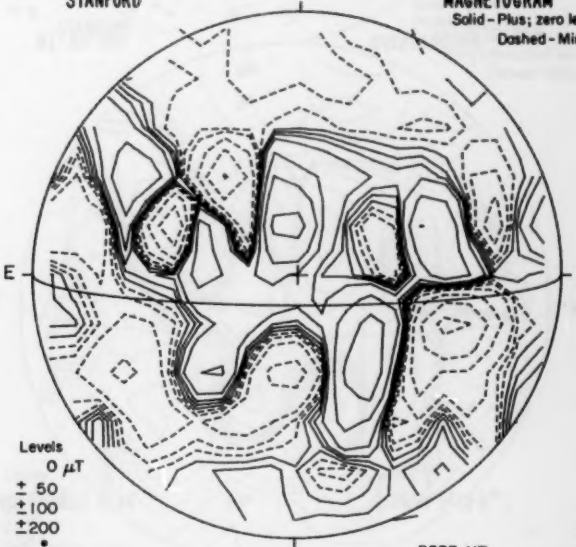
STANFORD

Np

MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus



E W

Levels

0 μT

± 50

±100

±200

2233 UT

Sp

OCTOBER 2, 1980 (P = 26.08, B_o = 6.65, L_o = 274.04)

SACRAMENTO PEAK Np CORONA (1.15 $R_\odot$)
5303 Å

E NO DATA W

KITT PEAK Np MAGNETOGRAM
Bright - Plus
Dark - Minus

E W

NO DATA

Sp

Sp
Np
MT. WILSON MAGNETOGRAM
DELTAY = 12.6 Solid-Plus
DELTAX = 9.5 Dotted-Minus

E W

Levels
± 5
± 10
± 20
± 40
± 80

21.80-23.21 UT

Sp

02
BOULDER Np

Np SAN FERNANDO

Np

NO DATA

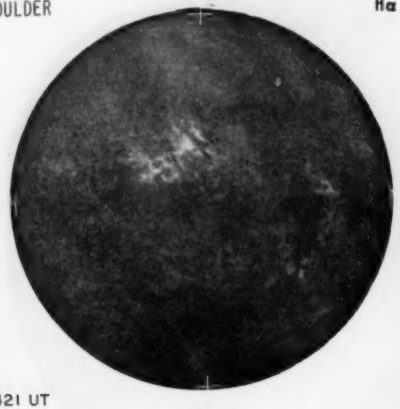
Sp

Sp

02

BOULDER

Np



E W

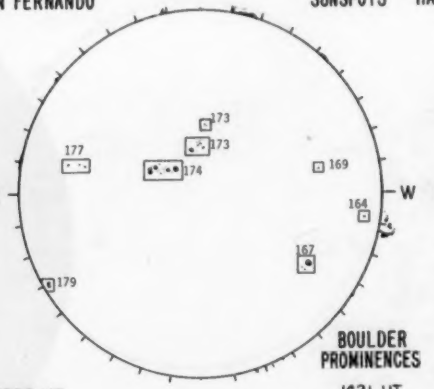
1421 UT

Sp

Hα

SAN FERNANDO

Np



E W

1825 UT

Sp

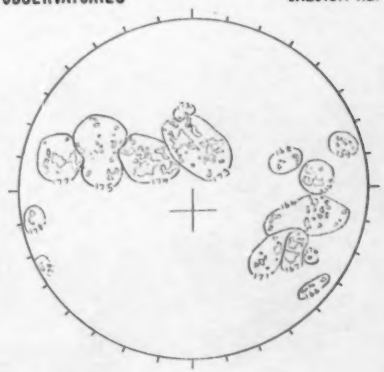
SUNSPOTS

BOULDER PROMINENCES

1421 UT

HALE OBSERVATORIES

Np



E W

1654 UT

Sp

CALCIUM REPORT

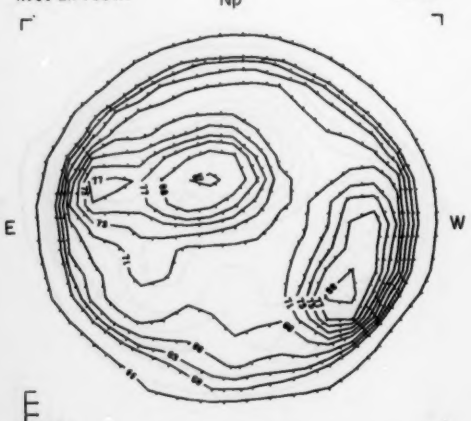
GOOD	JA

59- 0500-3.0
64- 2100-3.0
66- 0300-2.5
67- 1400-3.0
68- 0400-3.0
69- 1500-3.0
71- 0800-3.0
72- 0100-2.5
73- 3700-3.5
74- 3400-4.0
75- 2000-3.0
76- 0100-2.5
77- 2600-3.5
78- 0500-3.5
79- 0400-3.0

NOSC LA POSTA

Np

2.0 CM



E W

1530 UT

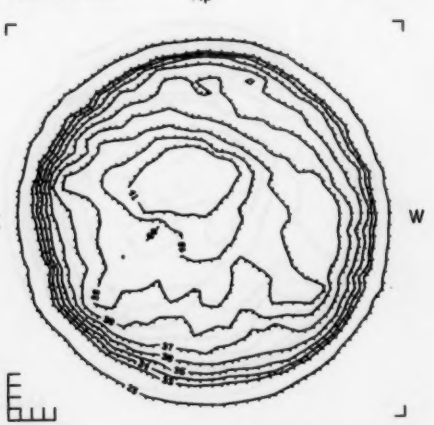
Sp

Ant. Temp. Unit 100° K

NOSC LA POSTA

Np

8.6 MM



E W

1559 UT

Sp

Ant. Temp. Unit 100° K

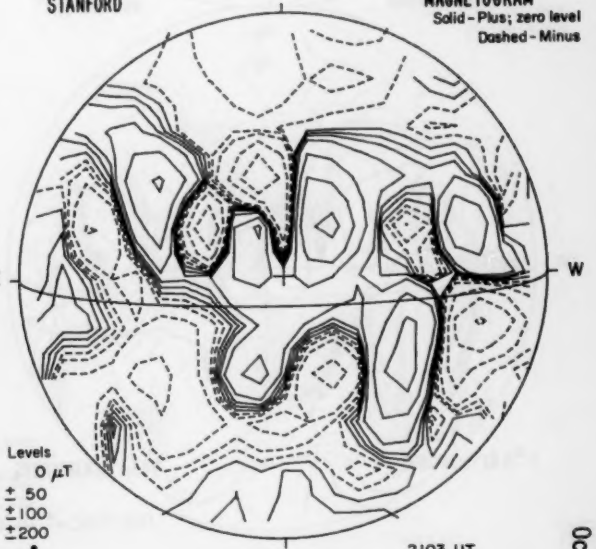
STANFORD

Np

MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus



E W

Levels

0 μT

± 50

±100

±200

2103 UT

Sp

53

Oct 80

OCTOBER 3, 1980 (P = 26.14, B_o = 6.60, L_o = 260.85)

SACRAMENTO PEAK

Np

CORONA (1.15 $R_\odot$)
5303 Å

E

W

1520 UT

Sp

KITT PEAK

Np

MAGNETOGRAM
Bright - Plus
Dark - Minus

E

W

1434 UT

Sp

MT. WILSON

Np

MAGNETOGRAM
Solid - Plus
Dotted - Minus

DELTAY = 12.6
DELTAX = 9.8

E

W

Levels
+ + + + + + + 5
10
20
40
80

23.73 - 24.66 UT

Sp

03

BOULDER

Np

Hα

SAN FERNANDO

Np

SUNSPOTS

HALE OBSERVATORIES

Np

CALCIUM REPORT

1434 UT

Sp

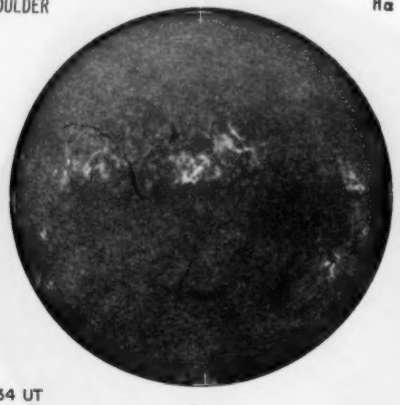
Sp

03

BOULDER

Np

Hα



E

W

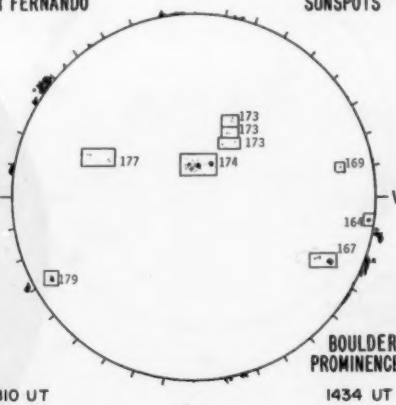
1434 UT

Sp

SAN FERNANDO

Np

SUNSPOTS



E

W

BOULDER PROMINENCES

1810 UT

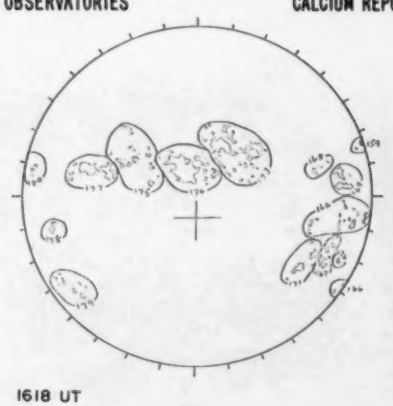
1434 UT

Sp

HALE OBSERVATORIES

Np

CALCIUM REPORT



E

W

1618 UT

Sp

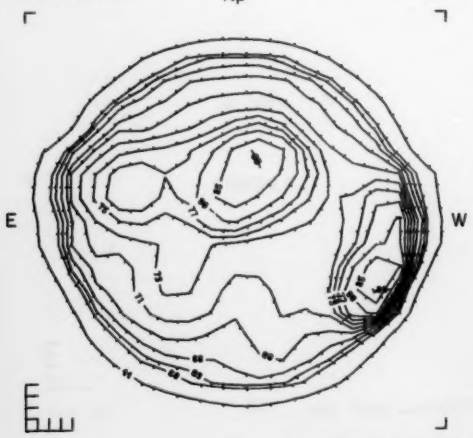
GOOD	JA

64- 1600-3.0
67- 0800-3.0
68- 0400-3.0
69- 1200-3.5
71- 0900-3.0
73- 3500-3.5
74- 3200-4.0
75- 1300-3.0
76- 0100-3.0
77- 2200-3.5
78- 0300-3.5
79- 0700-3.0
80- 0400-3.0

NOSC LA POSTA

Np

2.0 CM



E

W

1541 UT

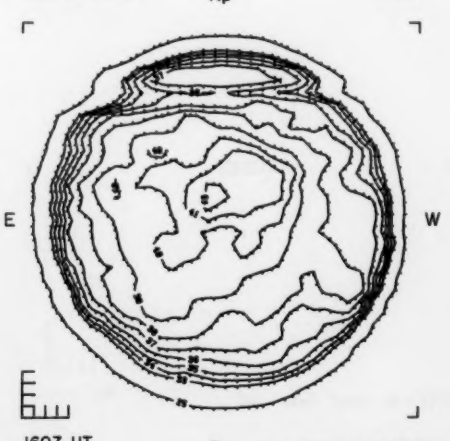
Sp

Ant. Temp. Unit 100° K

NOSC LA POSTA

Np

8.6 MM



E

W

1607 UT

Sp

Ant. Temp. Unit 100° K

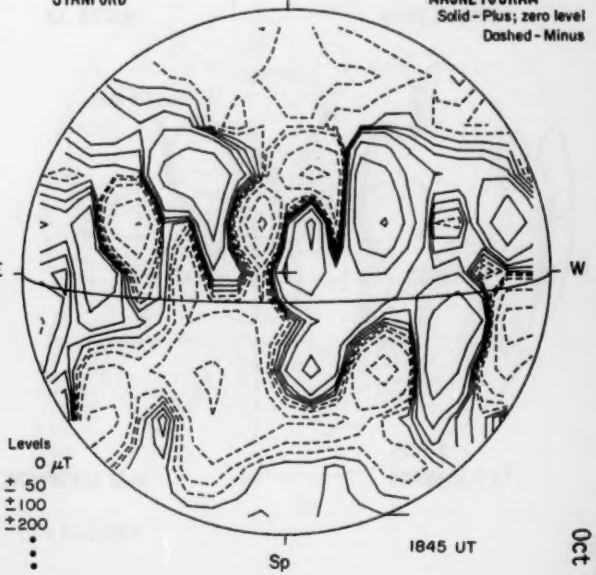
STANFORD

Np

MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus



E

W

Levels

0 μT

± 50

±100

±200

1845 UT

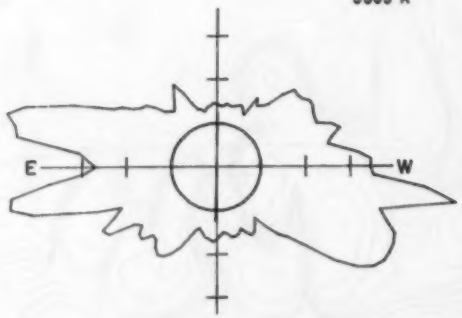
Sp

55

Oct 80

OCTOBER 4, 1980 (P = 26.19, B_o = 6.54, L_o = 247.66)

SACRAMENTO PEAK Np CORONA (1.15 $R_\odot$)
5303 Å

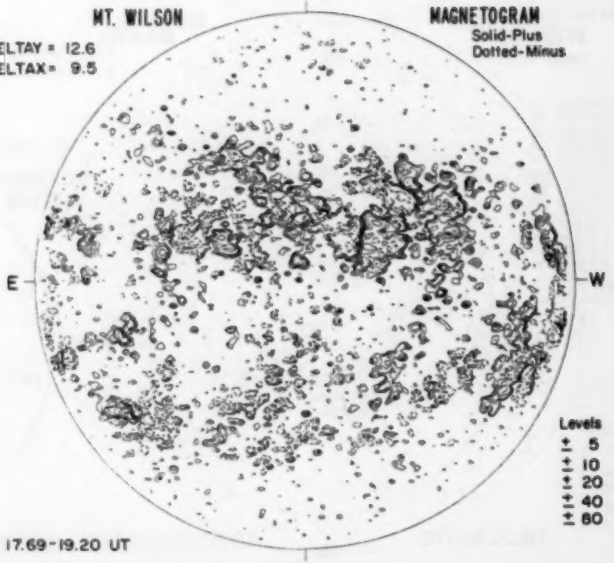


2318 UT

KITT PEAK Np MAGNETOGRAM
Bright - Plus
Dark - Minus

1429 UT

Sp
Np
MT. WILSON MAGNETOGRAM
Solid-Plus
Dotted-Minus
DELTAY = 12.6
DELTAX = 9.5



17.69-19.20 UT

64
BOULDER Np Hα SAN FERNANDO Np SUNSPOTS HALE OBSERVATORIES Np CALCIUM REPORT

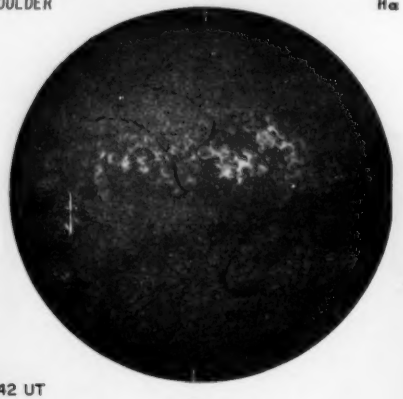
1429 UT

Sp

64

BOULDER

Np



E W

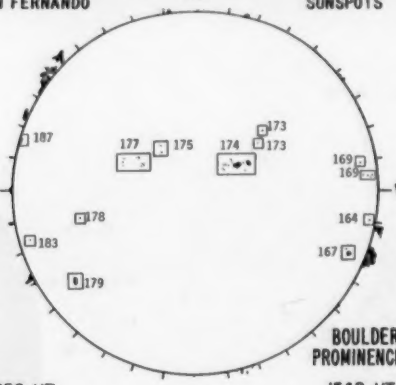
1542 UT

Sp

Hα

SAN FERNANDO

Np



E W

1650 UT

Sp

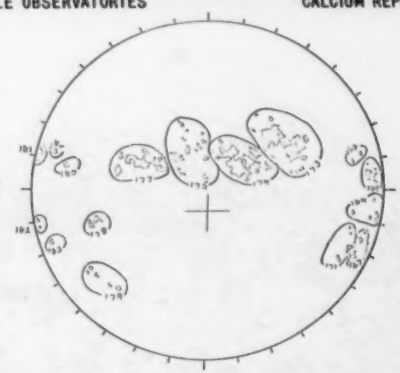
SUNSPOTS

BOULDER PROMINENCES

1542 UT

HALE OBSERVATORIES

Np



E W

1844 UT

Sp

CALCIUM REPORT

G000	JA
64- 0400-3.0	
67- 0400-3.0	
68- 0200-3.0	
69- 0200-3.0	
71- 0400-3.0	
73- 3100-3.5	
74- 3300-4.0	
75- 1200-3.0	
77- 2100-3.5	
78- 0300-3.5	
79- 0300-3.0	
80- 0100-3.0	
81- 0400-3.5	
82- 0200-2.5	
83- 0100-3.0	
84- 0100-3.5	

NOSC LA POSTA Np 2.0 CM

NO DATA

E SCHEDULE W

---- UT Sp Ant. Temp. Unit 100° K

NOSC LA POSTA Np 8.6 MM

NO DATA

E SCHEDULE W

---- UT Sp Ant. Temp. Unit 100° K

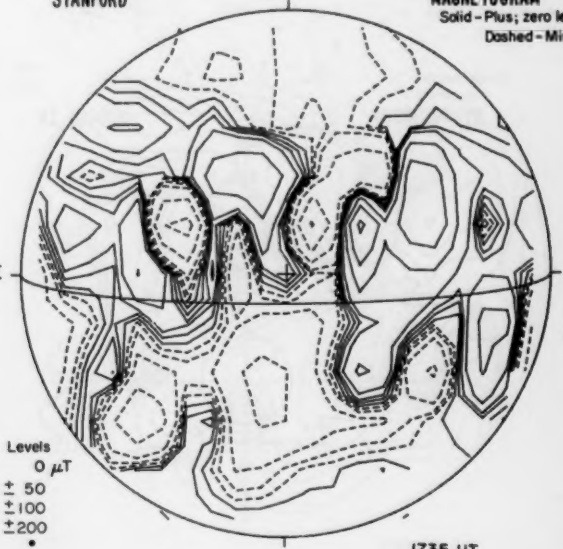
STANFORD

Np

MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus



E W

Levels

0 μT

± 50

± 100

± 200

1735 UT

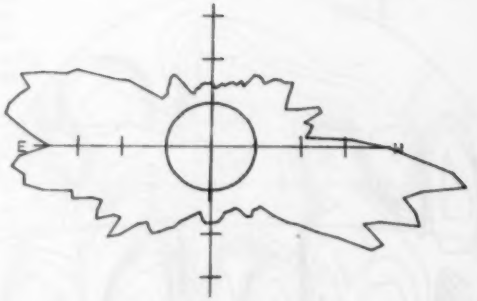
Sp

57

Oct 80

OCTOBER 5, 1980 (P = 26.23, B_o = 6.49, L_o = 234.46)

SACRAMENTO PEAK Np CORONA (1.15 $R_\odot$)
5303 Å



2326 UT

Sp

KITT PEAK Np MAGNETOGRAM
Bright - Plus
Dark - Minus

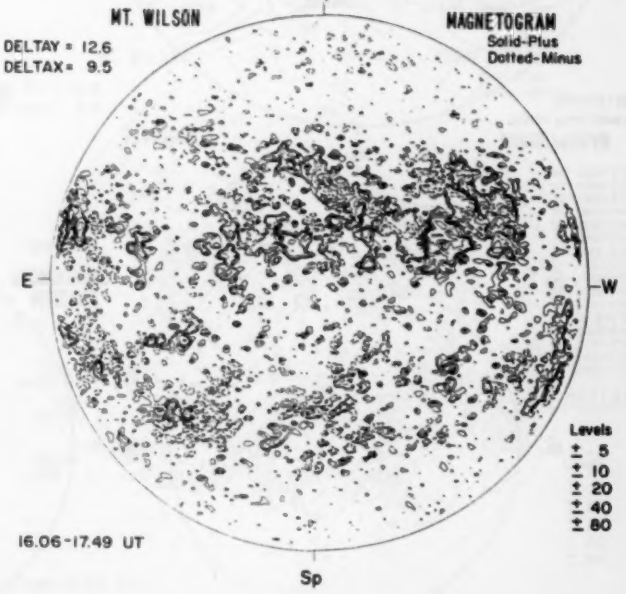
1431 UT

Sp

Np

MT. WILSON MAGNETOGRAM
Solid-Plus
Dotted-Minus

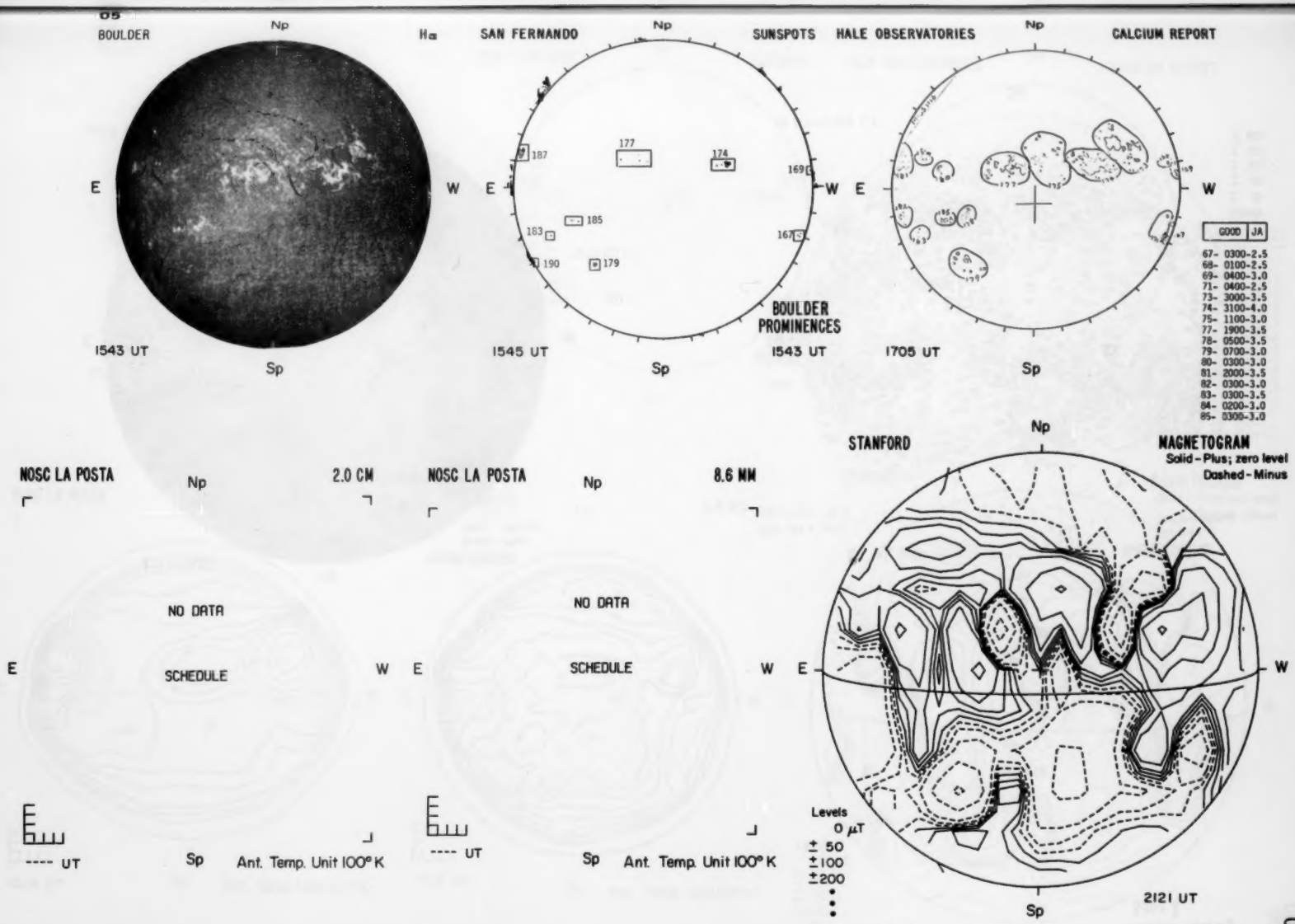
DELTAY = 12.6
DELTAX = 9.5



16.06-17.49 UT

Sp

05
BOULDER Np Hα SAN FERNANDO Np SUNSPOTS HALE OBSERVATORIES Np CALCIUM REPORT


BOULDER
Np
Hα
E
W
1543 UT
Sp
SAN FERNANDO
SUNSPOTS
Np
E
W
177
174
187
169
185
183
167
190
179
BOULDER PROMINENCES
1545 UT
1543 UT
Sp
HALE OBSERVATORIES
CALCIUM REPORT
Np
E
W
1705 UT
Sp
GOOD
JA
67- 0300-2.5
68- 0100-2.5
69- 0400-3.0
71- 0400-2.5
73- 3000-3.5
74- 3100-4.0
75- 1100-3.0
77- 1900-3.5
78- 0500-3.5
79- 0700-3.0
80- 0300-3.0
81- 2000-3.5
82- 0300-3.0
83- 0300-3.5
84- 0200-3.0
85- 0300-3.0
NOSC LA POSTA
Np
2.0 CM
NO DATA
SCHEDULE
E
W
---- UT
Sp
Ant. Temp. Unit 100° K
NOSC LA POSTA
Np
8.6 MM
NO DATA
SCHEDULE
E
W
---- UT
Sp
Ant. Temp. Unit 100° K
STANFORD
MAGNETOGRAM
Solid - Plus; zero level
Dashed - Minus
Np
E
W
Levels
0 μT
± 50
±100
±200
Sp
2121 UT

OCTOBER 6, 1980 (P = 26.26, B_o = 6.43, L_o = 221.27)

60
Oct 80

SACRAMENTO PEAK

Np

CORONA (1.15 $R_\odot$)
5303 Å

E

NO DATA

W

KITT PEAK

Np

MAGNETOGRAM
Bright - Plus
Dark - Minus

E

W

1457 UT

Sp

Sp

Np

MT. WILSON

MAGNETOGRAM
Solid-Plus
Dotted-Minus

DELTAY = 12.6
DELTAX = 9.5

E

W

Levels
± 5
± 10
± 20
± 40
± 80

16.57-17.99 UT

Sp

06

BOULDER

Np

Hα

SAN FERNANDO

Np

SUNSPOTS

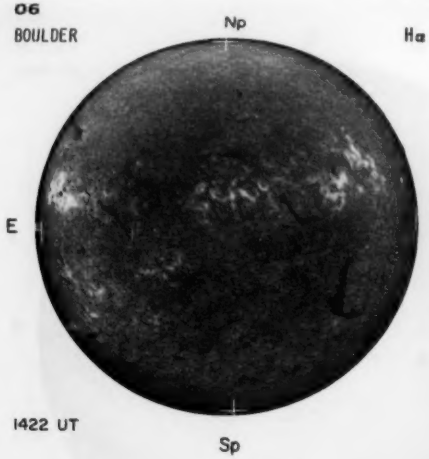
HALE OBSERVATORIES

Np

CALCIUM REPORT

06

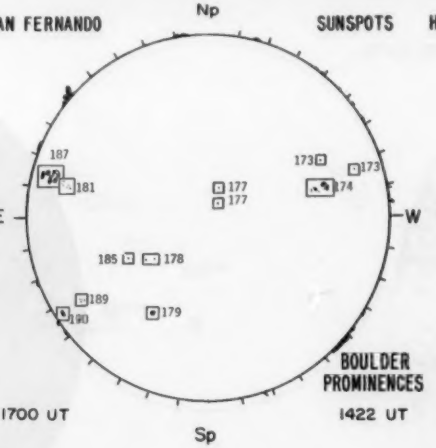
BOULDER



1422 UT

Hα

SAN FERNANDO



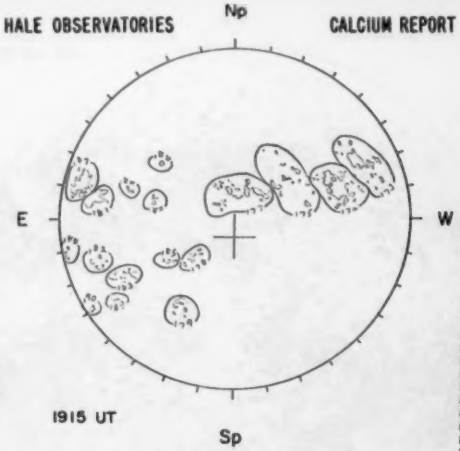
1700 UT

SUNSPOTS

BOULDER PROMINENCES

1422 UT

HALE OBSERVATORIES

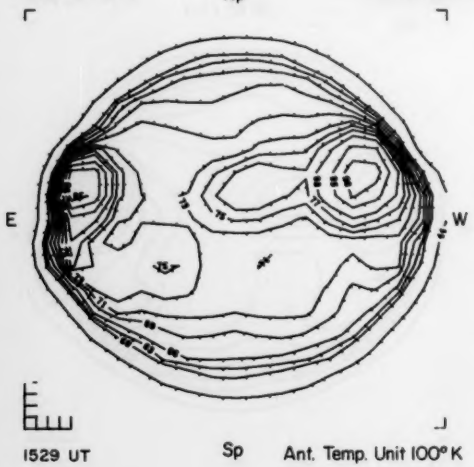


1915 UT

CALCIUM REPORT

	GOOD	JA
73-	2400	3.5
74-	3700	3.5
75-	1100	3.0
77-	1600	3.5
78-	0400	3.0
79-	0400	3.0
80-	0200	3.0
81-	1900	4.0
82-	0400	3.0
83-	0900	3.5
84-	0200	3.0
85-	0200	3.5
86-	0100	3.0
87-	3200	4.0
88-	0300	3.0
89-	0200	3.5
90-	0500	3.5

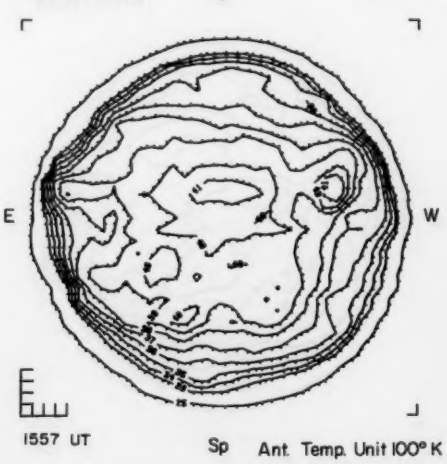
NOSC LA POSTA



1529 UT

Ant. Temp. Unit 100° K

NOSC LA POSTA



1557 UT

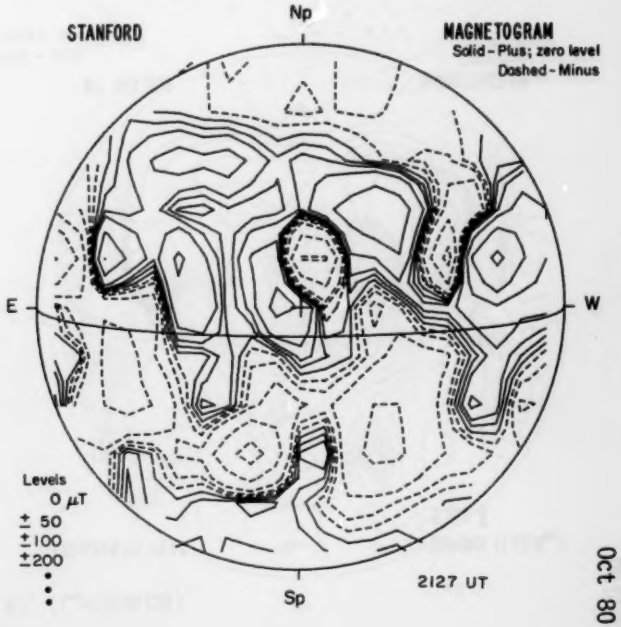
Ant. Temp. Unit 100° K

STANFORD

MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus



Levels

0 μT

± 50

±100

±200

2127 UT

61

Oct 80

OCTOBER 7, 1980 (P = 26.29, B_o = 6.37, L_o = 208.08)

SACRAMENTO PEAK Np CORONA (1.15 $R_\odot$)
5303 Å

E NO DATA W

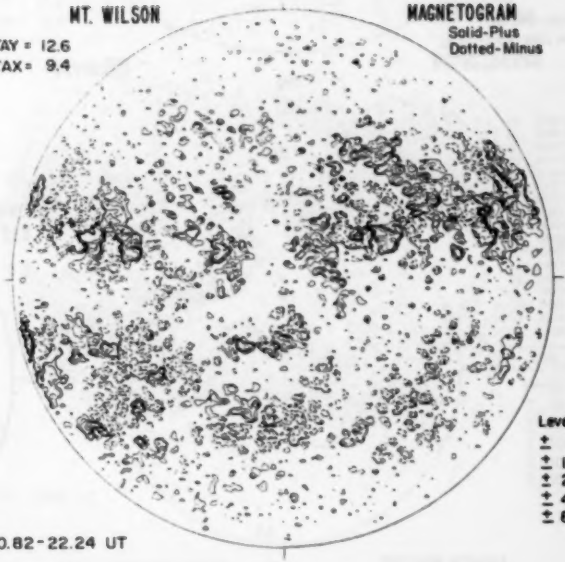
KITT PEAK Np MAGNETOGRAM
Bright - Plus
Dark - Minus

E W

1536 UT

Sp

Sp
Np
MT. WILSON MAGNETOGRAM
Solid-Plus
Dotted-Minus
DELTAY = 12.6
DELTAX = 9.4



E W

Levels
± 5
± 10
± 20
± 40
± 80

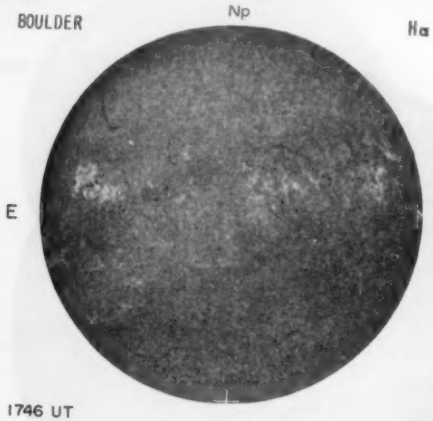
20.82 - 22.24 UT

Sp

07
BOULDER Np Hα SAN FERNANDO Np SUNSPOTS HALE OBSERVATORIES Np CALCIUM REPORT

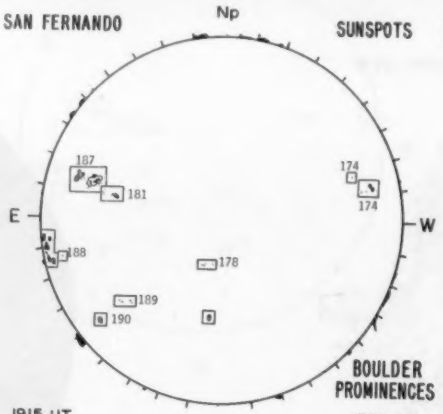
07

BOULDER



1746 UT

Hα SAN FERNANDO



1915 UT

SUNSPOTS HALE OBSERVATORIES

BOULDER PROMINENCES

1746 UT

Np

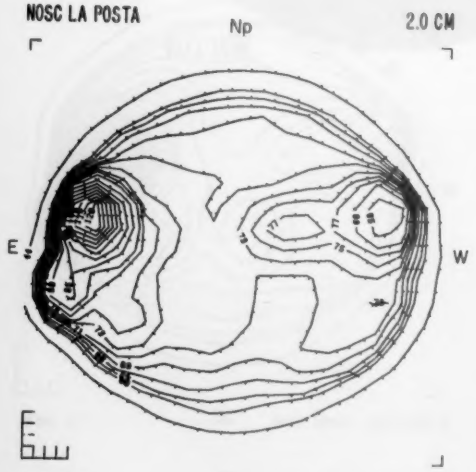
NO DATA

W

Sp

CALCIUM REPORT

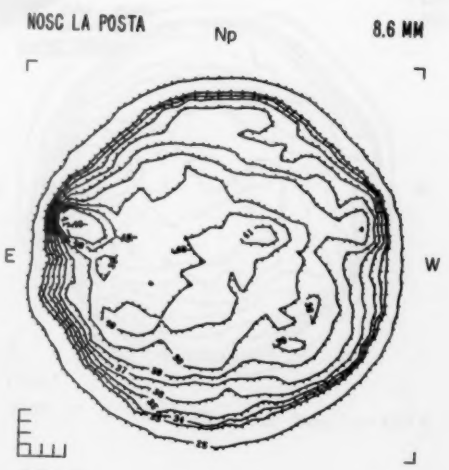
NOSC LA POSTA



1615 UT

Ant. Temp. Unit 100° K

NOSC LA POSTA



1659 UT

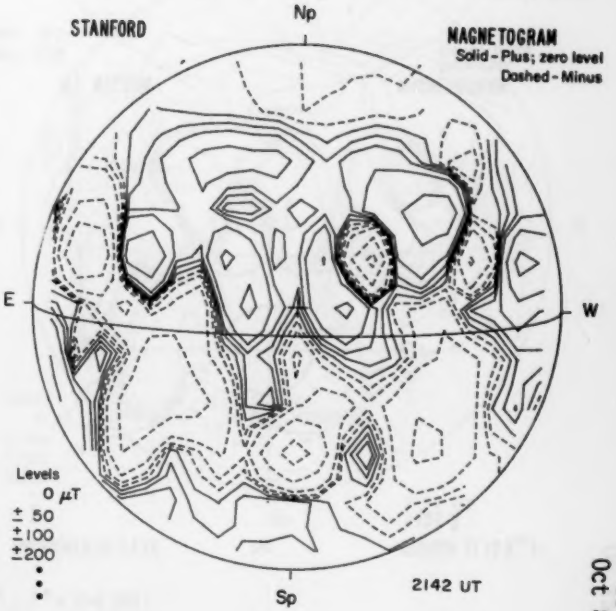
Ant. Temp. Unit 100° K

STANFORD

MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus



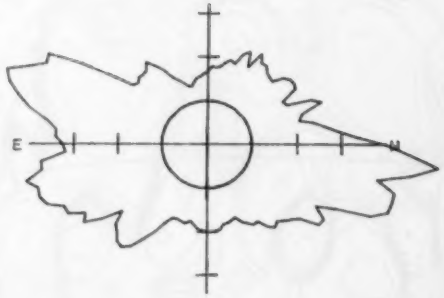
2142 UT

63

Oct 80

OCTOBER 8, 1980 (P = 26.31, B_o = 6.31, L_o = 194.88)

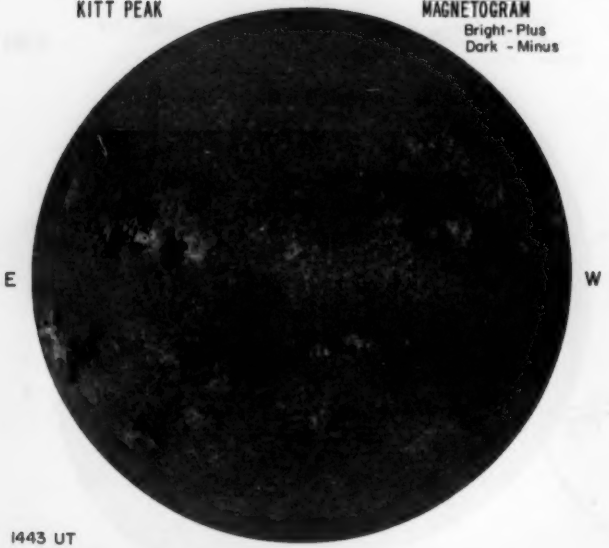
SACRAMENTO PEAK Np CORONA (1.15 $R_\odot$)
5303 Å



1639 UT

Sp

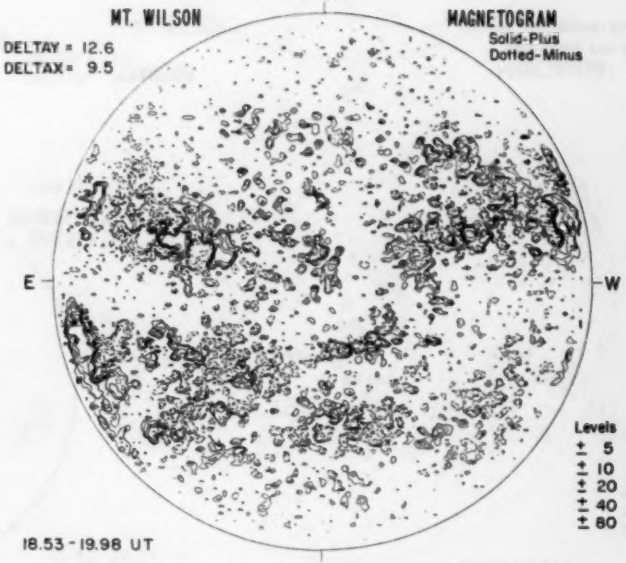
KITT PEAK Np MAGNETOGRAM
Bright - Plus
Dark - Minus



1443 UT

Sp

MT. WILSON Np MAGNETOGRAM
Solid-Plus
Dotted-Minus
DELTAY = 12.6
DELTAX = 9.5

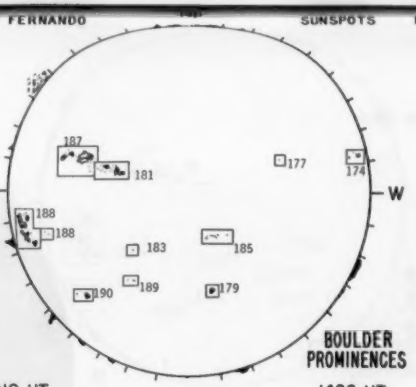


18.53 - 19.98 UT

Sp

BOULDER Hα SAN FERNANDO SUNSPOTS HALE OBSERVATORIES CALCIUM REPORT

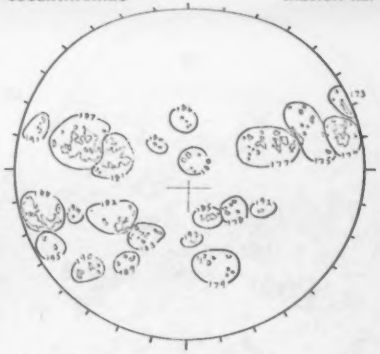
1426 UT Sp



1910 UT Sp

BOULDER PROMINENCES

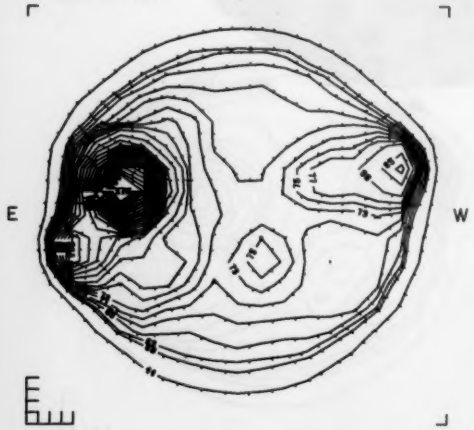
1426 UT



2001 UT Sp

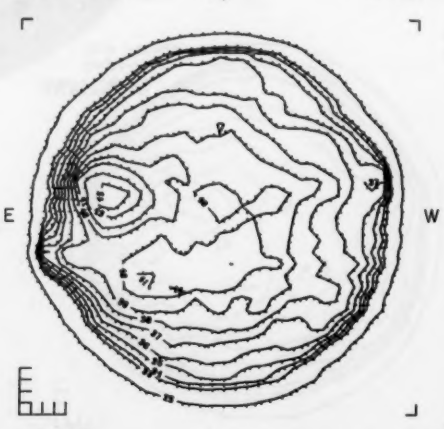
GOOD	JA
73- 0600-3.0	
74- 1800-3.5	
75- 1200-3.0	
77- 1500-3.5	
78- 0200-3.0	
79- 0400-3.0	
80- 0200-3.0	
81- 2100-4.0	
82- 0900-3.0	
83- 0500-3.5	
84- 0100-3.5	
85- 0300-3.5	
86- 0100-3.0	
87- 3600-3.5	
88- 3900-3.5	
89- 0200-3.0	
90- 0400-3.0	
91- 0200-2.5	
92- 0100-2.5	
93- 0100-3.0	
94- 0100-3.5	

NOSC LA POSTA Np 2.0 CM



1536 UT Sp Ant. Temp. Unit 100° K

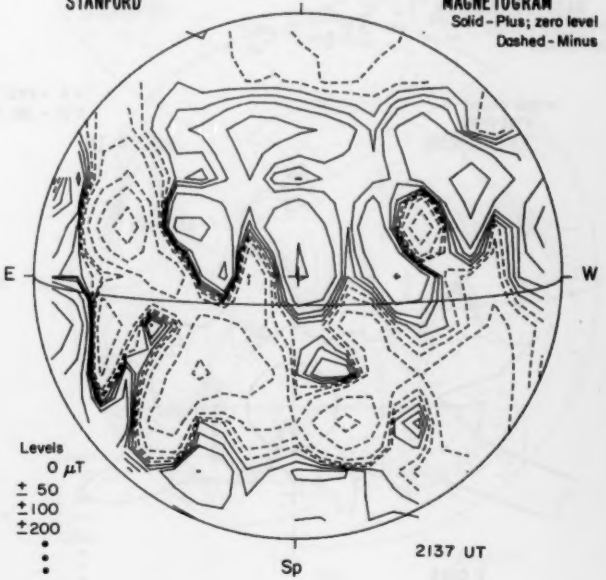
NOSC LA POSTA Np 8.6 MM



1600 UT Sp Ant. Temp. Unit 100° K

STANFORD Np

MAGNETOGRAM
Solid - Plus; zero level
Dashed - Minus

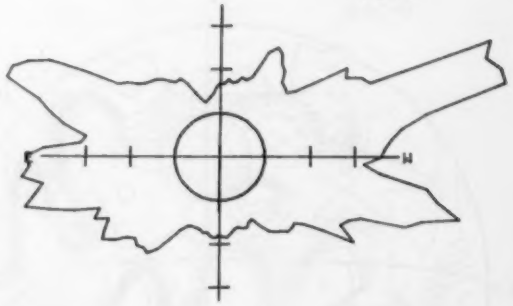


Sp 2137 UT

65
Oct 80

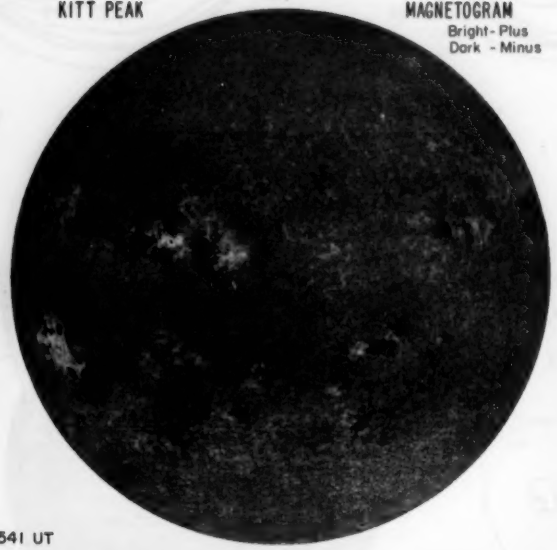
OCTOBER 9, 1980 (P = 26.32, B_o = 6.25, L_o = 181.69)

SACRAMENTO PEAK Np CORONA (1.15 $R_\odot$)
5303 Å



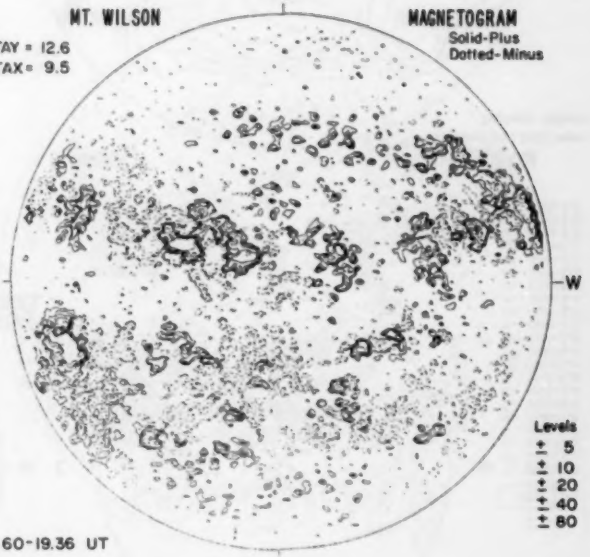
1646 UT

KITT PEAK Np MAGNETOGRAM
Bright - Plus
Dark - Minus



1541 UT Sp

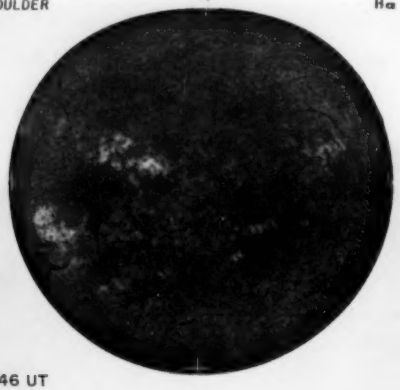
Sp
Np MT. WILSON MAGNETOGRAM
Solid-Plus
Dotted-Minus
DELTAY = 12.6
DELTAX = 9.5



17.60-19.36 UT Sp

BOULDER Np Hα SAN FERNANDO Np SUNSPOTS HALE OBSERVATORIES Np CALCIUM REPORT

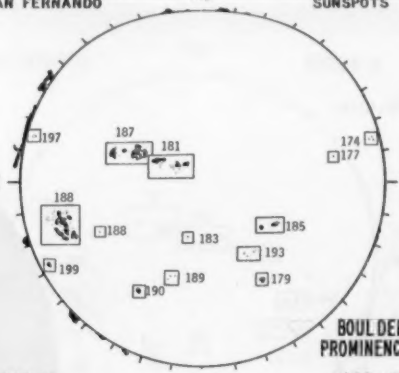
BOULDER Np Hα



E W

1446 UT Sp

SAN FERNANDO Np SUNSPOTS



E W

1900 UT Sp

BOULDER PROMINENCES

1446 UT

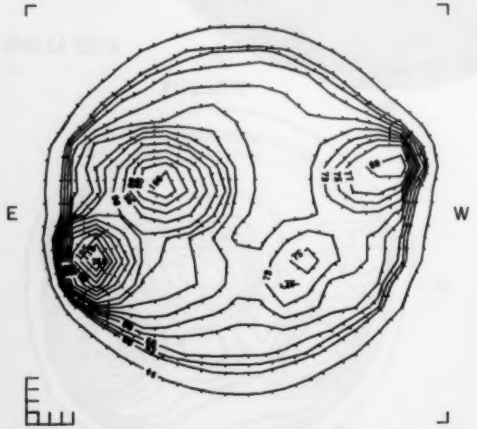
HALE OBSERVATORIES CALCIUM REPORT

E W

2004 UT Sp

G000	JA
74-	2200-3.5
75-	0300-3.0
78-	0300-3.5
79-	0800-3.0
80-	0400-3.5
81-	4500-3.5
82-	1700-3.5
83-	0600-3.5
84-	0200-2.5
85-	1300-3.5
86-	0200-2.5
87-	6200-3.5
88-	7300-3.5
89-	0700-3.5
90-	1200-3.5
91-	1600-3.0
92-	0300-3.0
93-	0800-3.0
94-	0300-3.0
95-	0400-3.0
96-	0100-3.0
97-	1700-3.0

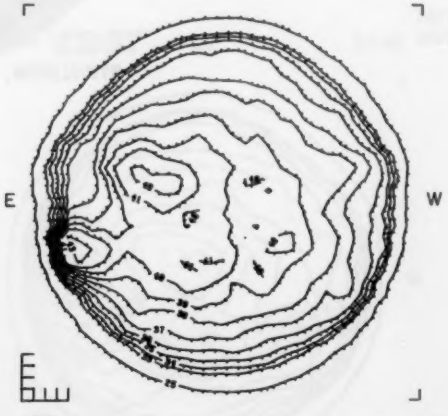
NOSC LA POSTA Np 2.0 CM



E W

1531 UT Sp Ant. Temp. Unit 100° K

NOSC LA POSTA Np 8.6 MM

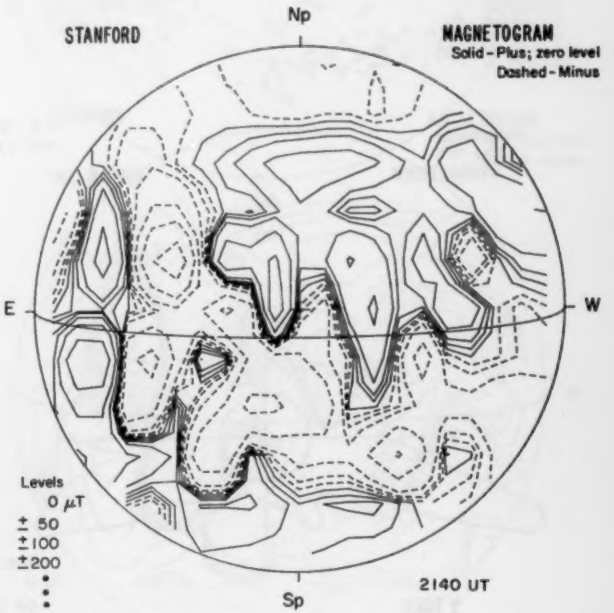


E W

1555 UT Sp Ant. Temp. Unit 100° K

STANFORD Np

MAGNETOGRAM
Solid - Plus; zero level
Dashed - Minus



E W

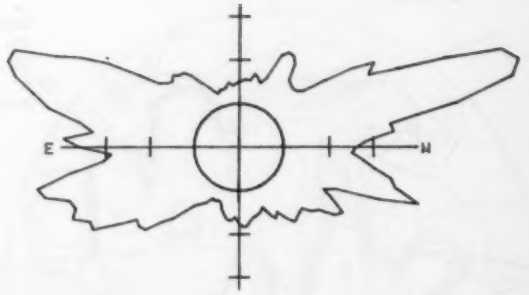
Levels
0 μT
± 50
±100
±200

2140 UT Sp

67
Oct 80

OCTOBER 10, 1980 (P = 26.32, B_o = 6.19, L_o = 168.50)

SACRAMENTO PEAK Np CORONA (1.15 $R_\odot$)
5303 Å

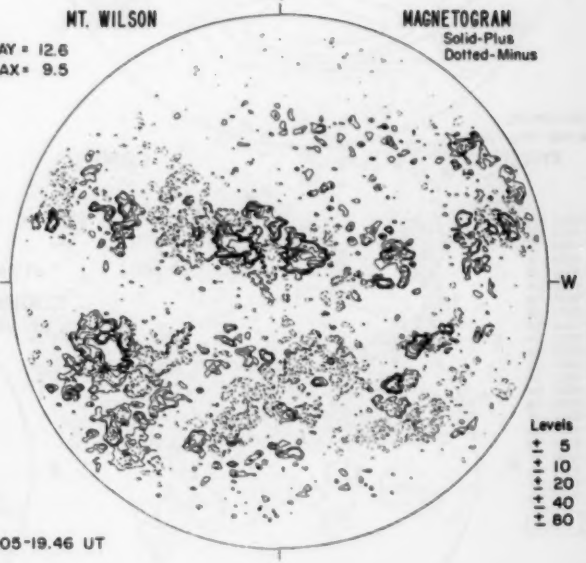


1551 UT

KITT PEAK Np MAGNETOGRAM
Bright - Plus
Dark - Minus

1432 UT

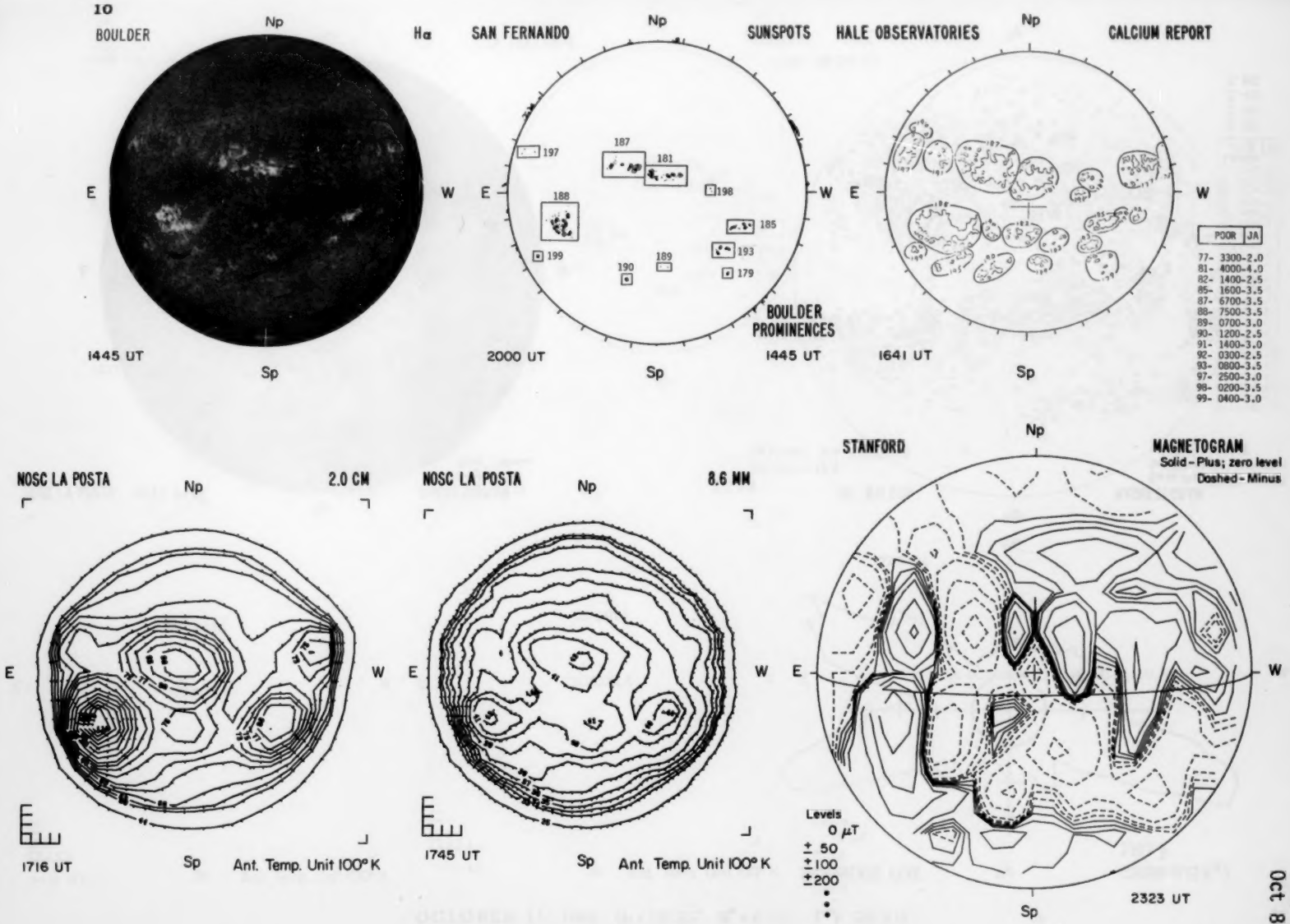
Sp
Np
MT. WILSON MAGNETOGRAM
Solid-Plus
Dotted-Minus
DELTAY = 12.6
DELTAX = 9.5



18.05-19.46 UT

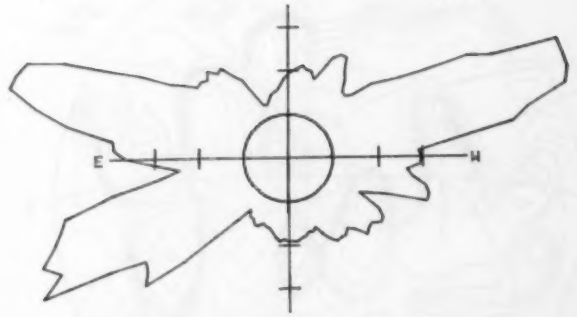
Sp

10
BOULDER Np Hα SAN FERNANDO Np SUNSPOTS HALE OBSERVATORIES Np CALCIUM REPORT


10
BOULDER
Hα
Np
E
W
Sp
1445 UT
SAN FERNANDO
SUNSPOTS
197
187
181
198
188
185
199
189
193
190
179
BOULDER PROMINENCES
2000 UT
1445 UT
HALE OBSERVATORIES
CALCIUM REPORT
1641 UT
POOR
JA
77- 3300-2.0
81- 4000-4.0
82- 1400-2.5
85- 1600-3.5
87- 6700-3.5
88- 7500-3.5
89- 0700-3.0
90- 1200-2.5
91- 1400-3.0
92- 0300-2.5
93- 0800-3.5
97- 2500-3.0
98- 0200-3.5
99- 0400-3.0
NOSC LA POSTA
2.0 CM
1716 UT
Ant. Temp. Unit 100° K
NOSC LA POSTA
8.6 MM
1745 UT
Ant. Temp. Unit 100° K
STANFORD
MAGNETOGRAM
Solid - Plus; zero level
Dashed - Minus
Levels
0 μT
± 50
± 100
± 200
2323 UT

OCTOBER 11, 1980 (P = 26.32, B_o = 6.12, L_o = 155.31)

SACRAMENTO PEAK Np CORONA (1.15 $R_\odot$)
5303 Å

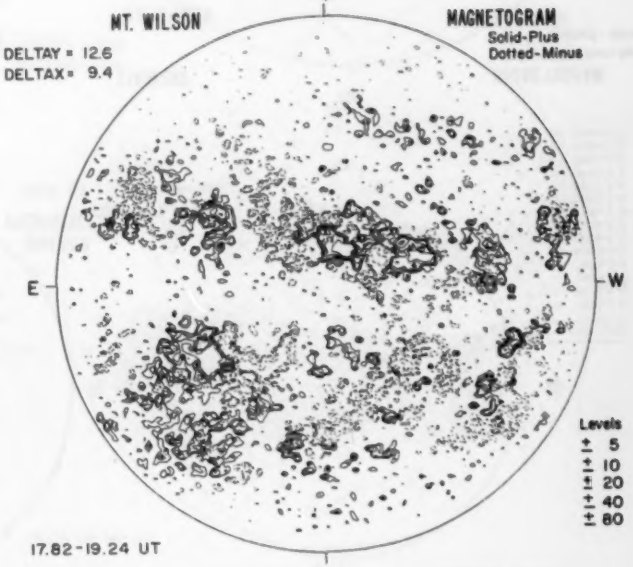


1539 UT

KITT PEAK Np MAGNETOGRAM
Bright - Plus
Dark - Minus

1435 UT Sp

Sp
Np MT. WILSON MAGNETOGRAM
Solid-Plus
Dotted-Minus
DELTAY = 12.6
DELTAX = 9.4

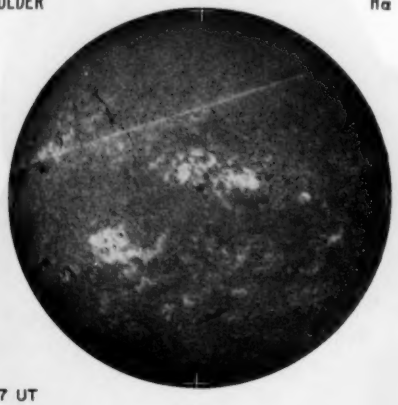


17.82 - 19.24 UT Sp

11
BOULDER Np Hα SAN FERNANDO Np SUNSPOTS HALE OBSERVATORIES Np CALCIUM REPORT

11

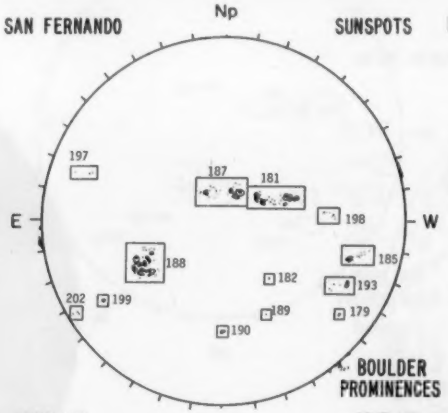
BOULDER



1517 UT

Hα

SAN FERNANDO



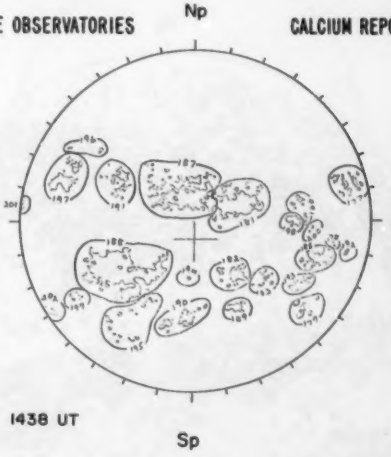
1600 UT

SUNSPOTS

BOULDER PROMINENCES

1517 UT

HALE OBSERVATORIES



1438 UT

CALCIUM REPORT

	GOOD	JA
77-	1300	3.0
78-	0100	2.5
79-	0500	3.0
80-	0500	2.5
81-	4400	3.5
82-	1300	3.0
83-	0500	2.5
85-	1500	3.0
87-	4300	3.5
88-	8000	3.5
89-	0600	3.0
90-	1100	3.0
91-	1100	3.0
92-	0100	2.5
93-	0700	3.0
94-	0100	2.5
95-	0800	2.5
97-	2600	3.5
98-	0400	3.0
99-	0300	2.5
00-	0100	2.5
01-	0200	2.5
02-	0700	3.0

STANFORD

Np

MAGNETOGRAM

Solid – Plus; zero level

Dashed – Minus

NOSC LA POSTA Np 2.0 CM

NO DATA

E SCHEDULE W

---- UT Sp Ant. Temp. Unit 100° K

NOSC LA POSTA Np 8.6 MM

NO DATA

E SCHEDULE W

---- UT Sp Ant. Temp. Unit 100° K

E NO DATA OCTOBER 11, 12, 13, 24, 25, 30, 31 W

Levels

0 μT

± 50

±100

±200

Sp

71

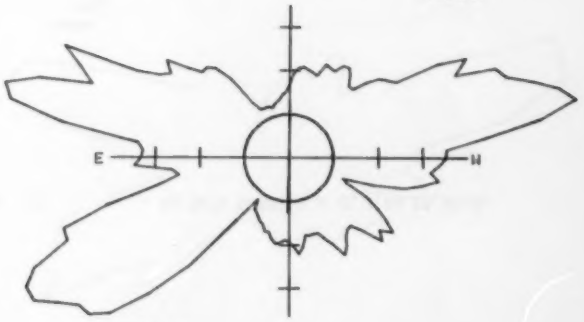
Oct 80

OCTOBER 12, 1980 (P=26.31, B_o=6.05, L_o=142.12)

SACRAMENTO PEAK

Np

CORONA (1.15 $R_\odot$)
5303 Å



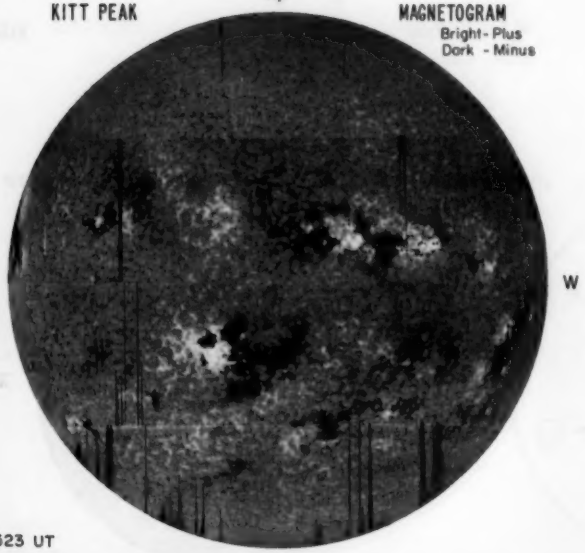
1606 UT

Sp

KITT PEAK

Np

MAGNETOGRAM
Bright - Plus
Dark - Minus



1523 UT

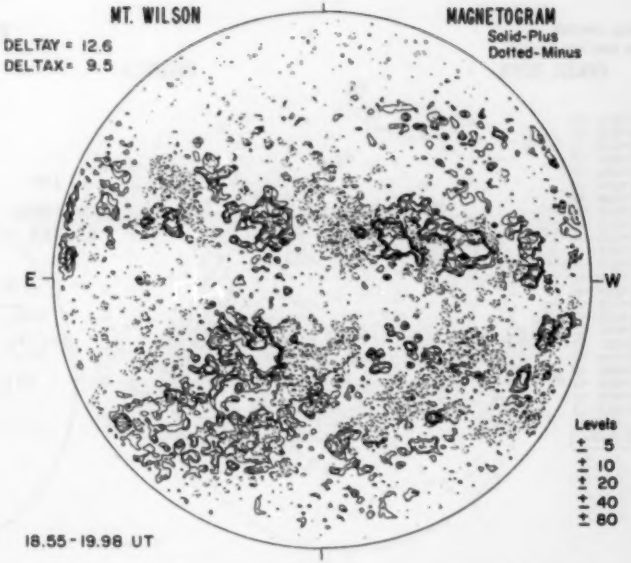
Sp

MT. WILSON

Np

MAGNETOGRAM
Solid-Plus
Dotted-Minus

DELTAY = 12.6
DELTAX = 9.5

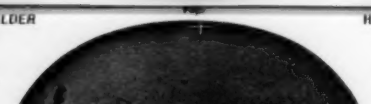


18.55-19.98 UT

Sp

BOULDER

Hα



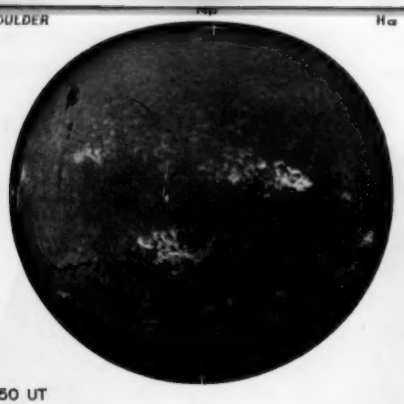
SAN FERNANDO

SUNSPOTS

HALE OBSERVATORIES

CALCIUM REPORT

BOULDER



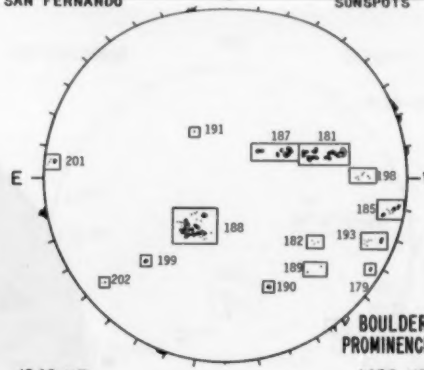
E W

1450 UT

Sp

Hα

SAN FERNANDO



E W

1940 UT

Sp

SUNSPOTS

HALE OBSERVATORIES

E W

1416 UT

Sp

CALCIUM REPORT

BOULDER PROMINENCES

1450 UT

GOOD	JA

81- 4800-4.0
85- 1900-3.0
87- 5800-3.5
88- 7500-4.0
89- 0400-2.5
90- 0800-2.5
94- 0200-3.0
96- 0400-3.0
97- 1900-3.0
98- 0800-3.0
00- 0100-2.5
01- 1500-3.0
04- 1500-2.5

STANFORD

Np

MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus

NOSC LA POSTA Np 2.0 CM

NO DATA

E SCHEDULE W

---- UT Sp Ant. Temp. Unit 100° K

NOSC LA POSTA Np 8.6 MM

NO DATA

E SCHEDULE W

---- UT Sp Ant. Temp. Unit 100° K

Levels

0 μT

± 50

± 100

± 200

• • •

E W

NO DATA

Sp

73

Oct 80

OCTOBER 13, 1980 (P=26.29, B_o=5.98, L_o=128.92)

SACRAMENTO PEAK Np CORONA (1.15 $R_\odot$)
5303 Å

E NO DATA W

KITT PEAK Np MAGNETOGRAM
Bright - Plus
Dark - Minus

E W

1443 UT Sp

Sp
Np
MT. WILSON MAGNETOGRAM
Solid-Plus
Dotted-Minus
DELTAY = 12.6
DELTAX = 9.4

E W

Levels
± 5
± 10
± 20
± 40
± 80

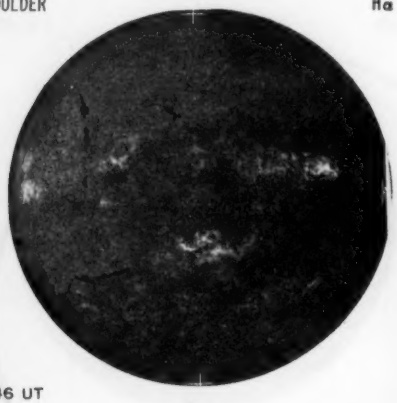
18.39-19.93 UT Sp

13
BOULDER Np Hα SAN FERNANDO Np SUNSPOTS HALE OBSERVATORIES Np CALCIUM REPORT

13

BOULDER

Np



E W

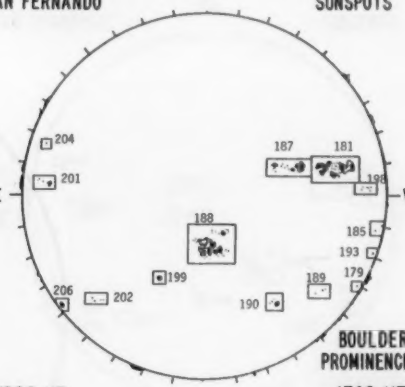
Sp

1746 UT

Hα

SAN FERNANDO

Np



E W

Sp

1920 UT

SUNSPOTS

BOULDER PROMINENCES

1746 UT

HALE OBSERVATORIES

Np

E W

Sp

1537 UT

CALCIUM REPORT

	POOR	JA
88-	7900	4.0
91-	1000	2.5
96-	0700	2.5
97-	1500	3.0
98-	1000	2.5
01-	2000	3.5
02-	0500	2.5
03-	0400	3.0
04-	3000	3.0
05-	1200	3.0

NOSC LA POSTA

Np

2.0 CM

NO DATA

E WEATHER W

---- UT

Sp Ant. Temp. Unit 100° K

NOSC LA POSTA

Np

8.6 MM

NO DATA

E WEATHER W

---- UT

Sp Ant. Temp. Unit 100° K

STANFORD

Np

MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus

NO DATA

E W

Levels

0 μT

± 50

±100

±200

•

•

•

Sp

75 Oct 80

OCTOBER 14, 1980 (P = 26.27, B_o = 5.91, L_o = 115.73)

SACRAMENTO PEAK Np CORONA (1.15 $R_\odot$)
5303 Å

E NO DATA W

Sp

Np

KITT PEAK Np MAGNETOGRAM
Bright - Plus
Dark - Minus

E NO DATA W

Sp

MT. WILSON MAGNETOGRAM
Solid-Plus
Dotted-Minus

DELTAY =
DELTAX =

E NO DATA 14, 15, 16, 22, 25, 26, 31 W

Levels
+ 5
++ 10
+++ 20
++++ 40
+++++ 80

Sp

14

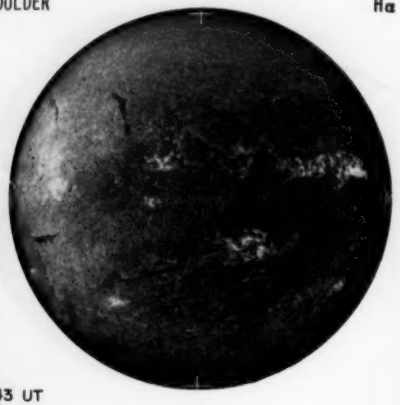
BOULDER Np Hα SAN FERNANDO Np SUNSPOTS HALE OBSERVATORIES Np CALCIUM REPORT

14

BOULDER

Np

Hα



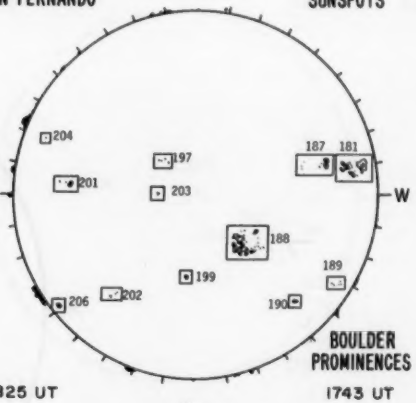
E W

1743 UT

Sp

SAN FERNANDO

Np



E W

1825 UT

Sp

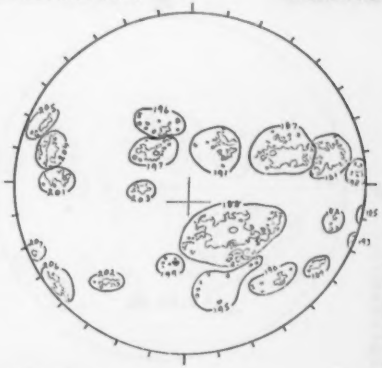
SUNSPOTS

BOULDER PROMINENCES

1743 UT

HALE OBSERVATORIES

Np



E W

1432 UT

Sp

CALCIUM REPORT

GOOD	JA

81- 4700-4.0
87- 5500-4.0
88- 7800-4.0
89- 0700-2.5
91- 1200-2.5
96- 0700-2.5
97- 1500-3.0
01- 2000-3.5
02- 0700-3.0
03- 0600-3.0
04- 2700-3.0
05- 1500-3.0
07- 0300-2.5

NOSC LA POSTA

Np

2.0 CM

NO DATA

E

WEATHER

W

---- UT

Sp

Ant. Temp. Unit 100° K

NOSC LA POSTA

Np

8.6 MM

NO DATA

E

WEATHER

W

---- UT

Sp

Ant. Temp. Unit 100° K

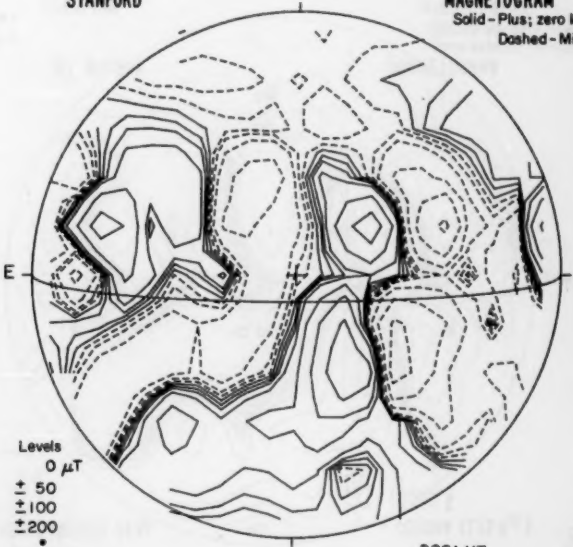
STANFORD

Np

MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus



E W

Levels

0 μT

± 50

± 100

± 200

2201 UT

Sp

77

Oct 80

OCTOBER 15, 1980 (P = 26.24, B_o = 5.84, L_o = 102.54)

SACRAMENTO PEAK Np CORONA (1.15 $R_\odot$)
5303 Å

E NO DATA W

Sp

Np

KITT PEAK Np MAGNETOGRAM
Bright - Plus
Dark - Minus

E NO DATA W

Sp

MT. WILSON MAGNETOGRAM
Solid-Plus
Dotted-Minus

DELTAY =
DELTAX =

E NO DATA W

Levels
± 5
± 10
± 20
± 40
± 80

Sp

15

BOULDER Np Hα SAN FERNANDO Np SUNSPOTS HALE OBSERVATORIES Np CALCIUM REPORT

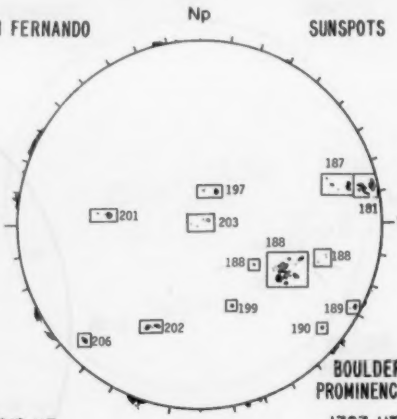
15

BOULDER

1727 UT

Hα

SAN FERNANDO



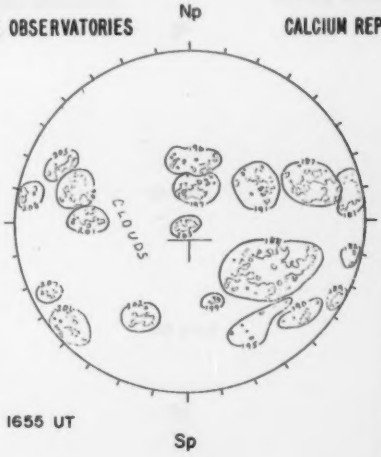
1918 UT

SUNSPOTS

BOULDER PROMINENCES

1727 UT

HALE OBSERVATORIES



1655 UT

CALCIUM REPORT

	POOR	JA
81-	4800	4.0
87-	5000	3.5
88-	7600	4.0
89-	1100	2.5
91-	1300	3.0
96-	0800	2.5
97-	1700	3.5
01-	1800	3.5
02-	1000	3.5
03-	0700	3.0
04-	3000	3.5
05-	1400	3.0
06-	1500	2.5
07-	0400	2.5
07-	0800	3.5

NOSC LA POSTA Np 2.0 CM

NO DATA

E WEATHER W

---- UT Sp Ant. Temp. Unit 100° K

NOSC LA POSTA Np 8.6 MM

NO DATA

E WEATHER W

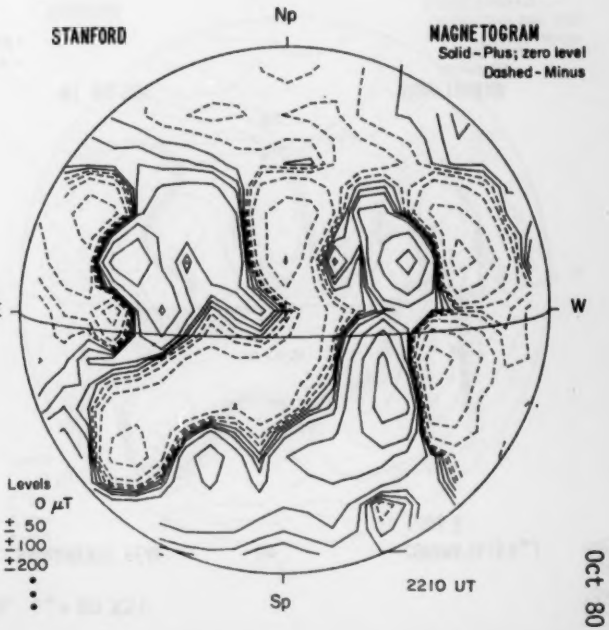
---- UT Sp Ant. Temp. Unit 100° K

STANFORD

MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus



2210 UT

79 Oct 80

OCTOBER 16, 1980 (P = 26.20, B_o = 5.76, L_o = 89.35)

SACRAMENTO PEAK Np CORONA (1.15 $R_\odot$)
5303 Å

E NO DATA W

Sp

Np

KITT PEAK Np MAGNETOGRAM
Bright - Plus
Dark - Minus

E NO DATA W

Sp

MT. WILSON MAGNETOGRAM
Solid-Plus
Dotted-Minus

DELTAY =
DELTAX =

E NO DATA W

Levels
± 5
± 10
± 20
± 40
± 80

Sp

16

BIG BEAR Np Hα SAN FERNANDO Np SUNSPOTS HALE OBSERVATORIES Np CALCIUM REPORT

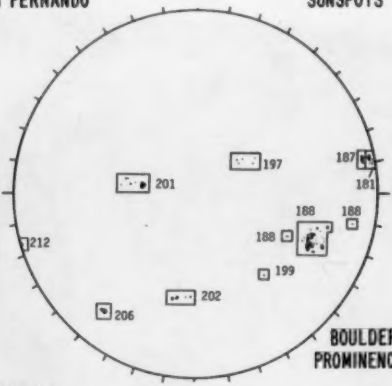
16

BIG BEAR Np Hα

E W

1652 UT Sp

SAN FERNANDO Np SUNSPOTS



E W E

1645 UT Sp

BOULDER PROMINENCES

HALE OBSERVATORIES Np CALCIUM REPORT

NO DATA

W

Sp

NOSC LA POSTA Np 2.0 CM

NO DATA

E WEATHER W

---- UT Sp Ant. Temp. Unit 100° K

NOSC LA POSTA Np 8.6 MM

NO DATA

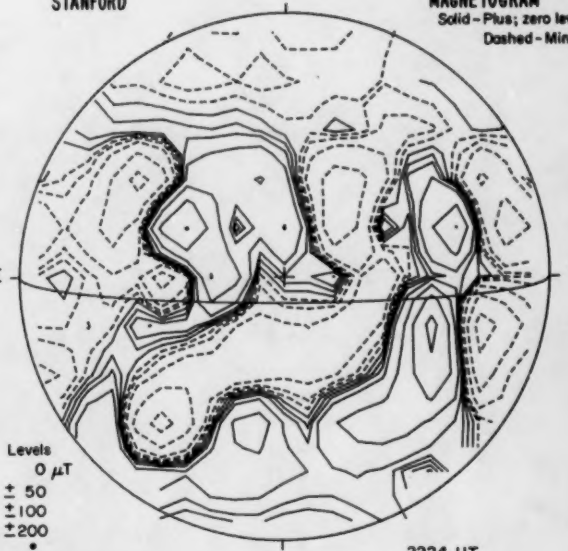
E WEATHER W

---- UT Sp Ant. Temp. Unit 100° K

STANFORD Np MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus



E W

Levels

0 μT

± 50

±100

±200

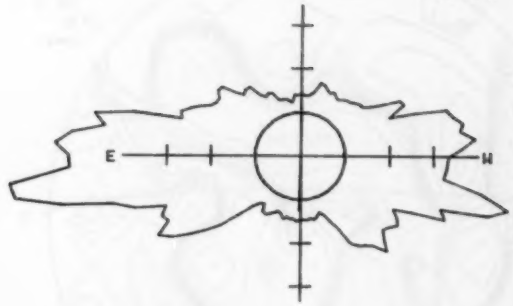
2224 UT Sp

81

Oct 80

OCTOBER 17, 1980 (P = 26.15, B_o = 5.68, L_o = 76.16)

SACRAMENTO PEAK Np CORONA (1.15 $R_\odot$)
5303 Å

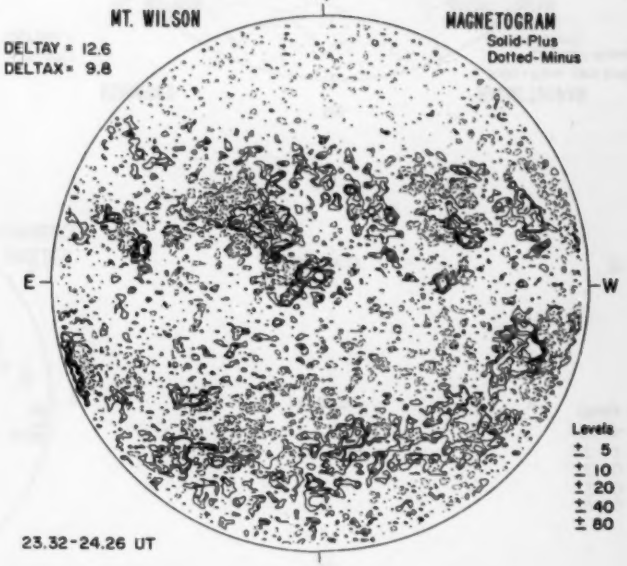


1430 UT

KITT PEAK Np MAGNETOGRAM
Bright - Plus
Dark - Minus

1524 UT

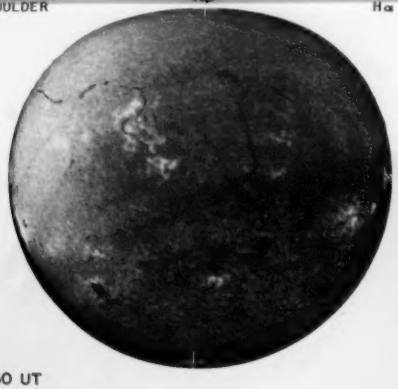
Sp
Np MT. WILSON MAGNETOGRAM
Solid-Plus
Dotted-Minus
DELTAY = 12.6
DELTAX = 9.8



23.32-24.26 UT

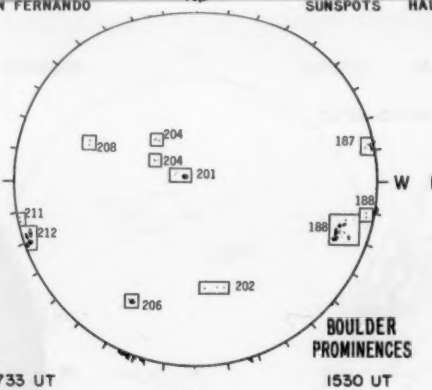
BOULDER Np Hα SAN FERNANDO Np SUNSPOTS HALE OBSERVATORIES Np CALCIUM REPORT

BOULDER Np Hα



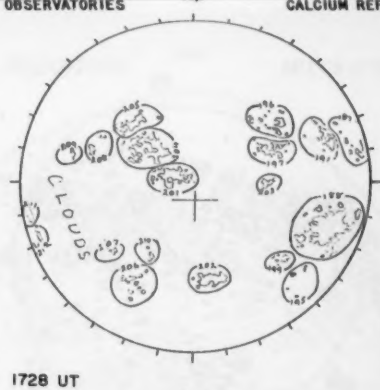
1530 UT Sp

SAN FERNANDO Np SUNSPOTS



1733 UT Sp

HALE OBSERVATORIES Np CALCIUM REPORT



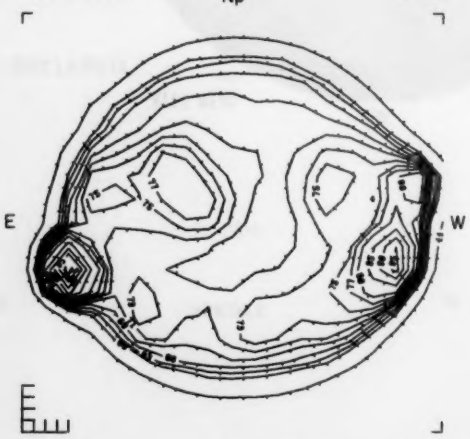
1728 UT Sp

BOULDER PROMINENCES 1530 UT

POOR	JA

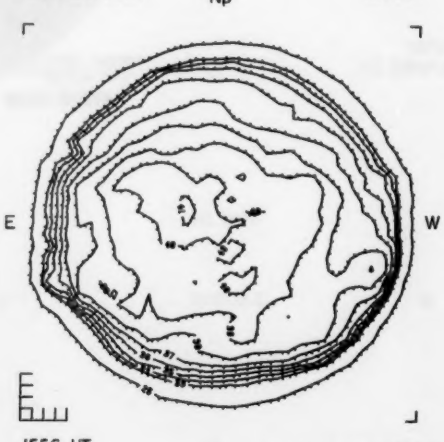
87- 2000-3.0
88- 7700-4.0
91- 1400-2.5
96- 1000-2.5
97- 1500-3.5
01- 1500-3.5
02- 1500-3.5
03- 0500-3.0
04- 2700-3.5
05- 1300-2.5
08- 0500-3.5
11- 1700-3.5
12- 2000-3.5

NOSC LA POSTA Np 2.0 CM



1530 UT Sp Ant. Temp. Unit 100° K

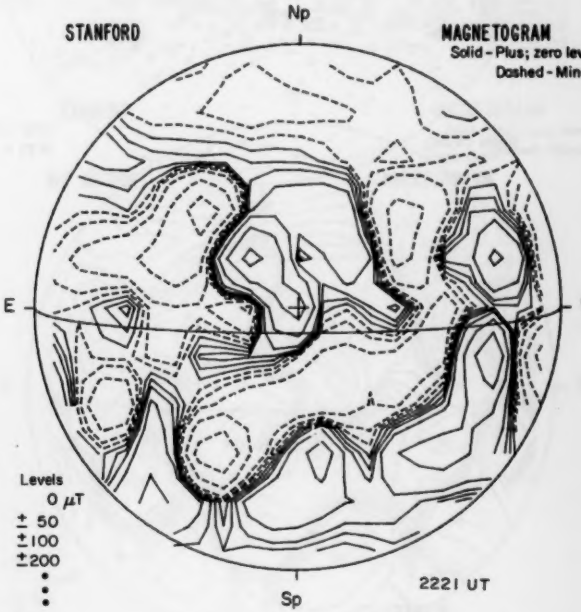
NOSC LA POSTA Np 8.6 MM



1556 UT Sp Ant. Temp. Unit 100° K

STANFORD Np MAGNETOGRAM

Solid - Plus; zero level
Dashed - Minus



Sp 2221 UT

83
Oct 80

OCTOBER 18, 1980 (P = 26.09, B_o = 5.61, L_o = 62.97)

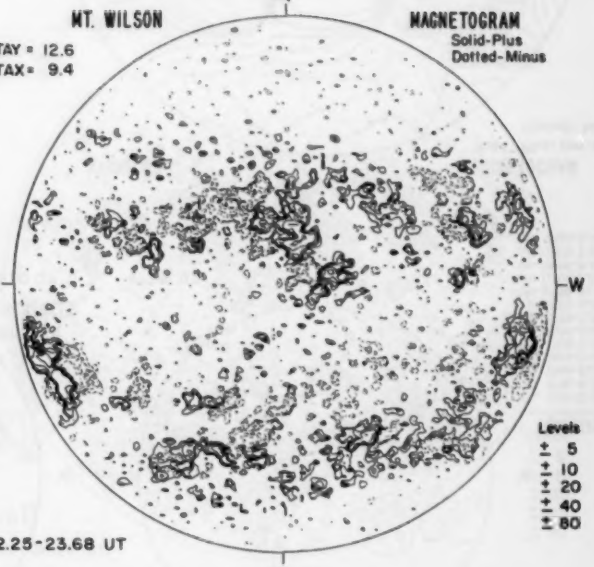
SACRAMENTO PEAK Np CORONA (1.15 $R_\odot$)
5303 Å

E NO DATA W

KITT PEAK Np MAGNETOGRAM
Bright - Plus
Dark - Minus

1436 UT

MT. WILSON Sp Np MAGNETOGRAM
Solid-Plus
Dotted-Minus
DELTAY = 12.6
DELTAX = 9.4



22.25-23.68 UT

18

Np Hα SAN FERNANDO Np SUNSPOTS HALE OBSERVATORIES Np CALCIUM REPORT

Np

Hα

NO DATA

E W

Sp

SAN FERNANDO

Np

214 205 208 197 201 188 211 212 206 206

2120 UT

Sp

SUNSPOTS

BOULDER PROMINENCES

1730 UT

HALE OBSERVATORIES

Np

1358 UT

E W

Sp

CALCIUM REPORT

6000	JA
88-	7000-3.5
97-	1200-3.0
01-	1300-3.5
02-	1300-3.0
03-	0600-2.5
04-	2500-3.0
05-	1300-3.0
06-	2000-2.5
07-	0500-2.5
09-	0800-2.5
11-	3500-3.0
12-	4000-4.0
14-	0300-3.0
15-	0500-2.5

NOSC LA POSTA

Np

2.0 CM

NO DATA

E

SCHEDULE

W

---- UT

Sp

Ant. Temp. Unit 100° K

NOSC LA POSTA

Np

8.6 MM

NO DATA

E

SCHEDULE

W

---- UT

Sp

Ant. Temp. Unit 100° K

STANFORD

Np

MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus

E W

Levels

0 μT

± 50

±100

±200

Sp

1757 UT

85

Oct 80

OCTOBER 19, 1980 (P = 26.03, B_o = 5.53, L_o = 49.78)

SACRAMENTO PEAK Np CORONA (1.15 $R_\odot$)
5303 Å

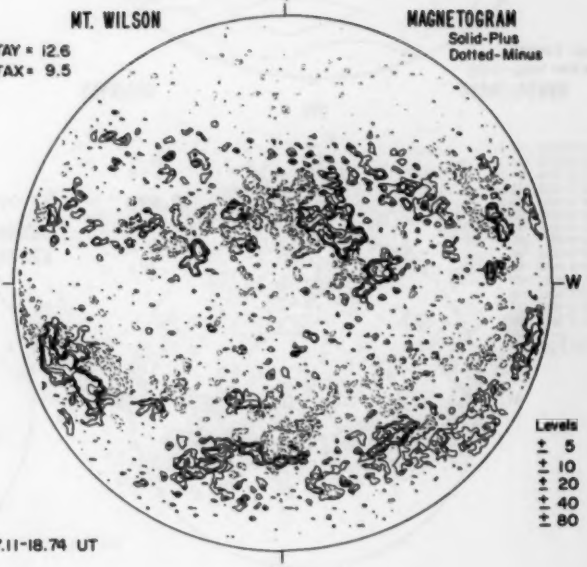
E NO DATA W

KITT PEAK Np MAGNETOGRAM
Bright - Plus
Dark - Minus

E W

1444 UT Sp

Sp
Np
MT. WILSON MAGNETOGRAM
Solid-Plus
Dotted-Minus
DELTAY = 12.6
DELTAX = 9.5



E W

Levels
± 5
± 10
± 20
± 40
± 80

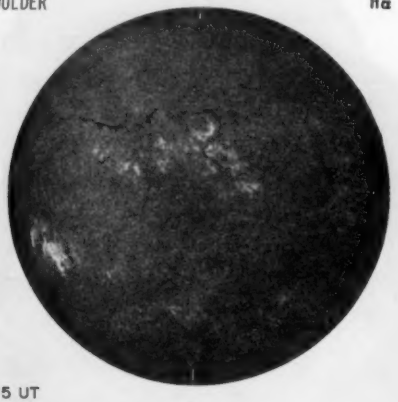
17.11-18.74 UT Sp

19

BOULDER Np Hα SAN FERNANDO Np SUNSPOTS HALE OBSERVATORIES Np CALCIUM REPORT

19

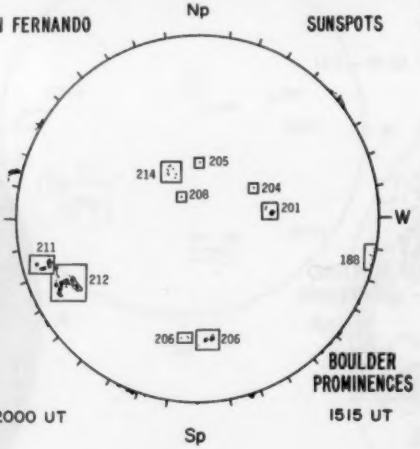
BOULDER



1515 UT

Hα

SAN FERNANDO



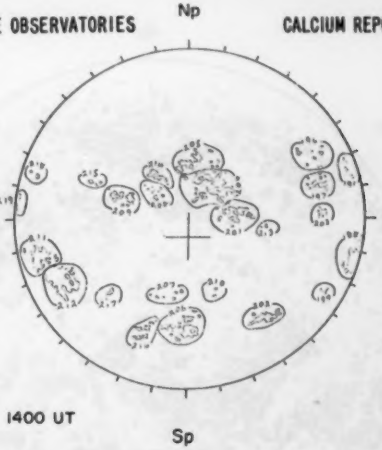
2000 UT

SUNSPOTS

BOULDER PROMINENCES

1515 UT

HALE OBSERVATORIES



1400 UT

CALCIUM REPORT

GOOD	JA
88- 3500-3.0	
97- 1200-2.5	
01- 1300-3.5	
02- 1300-3.0	
03- 0700-2.5	
04- 2500-3.0	
05- 1300-3.0	
06- 2000-2.5	
09- 0800-2.5	
11- 3400-3.5	
12- 5300-3.5	
14- 0500-2.5	
19- 1200-3.0	

NOSC LA POSTA Np 2.0 CM

NO DATA

E SCHEDULE W

---- UT Sp Ant. Temp. Unit 100° K

NOSC LA POSTA Np 8.6 MM

NO DATA

E SCHEDULE W

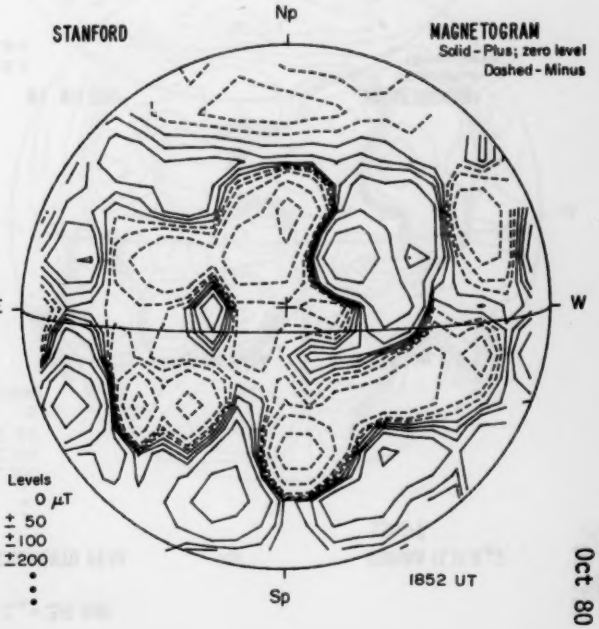
---- UT Sp Ant. Temp. Unit 100° K

STANFORD

MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus



1852 UT

Levels

0 μT

± 50

±100

±200

•

•

•

87

Oct 80

OCTOBER 20, 1980 (P = 25.96, B_o = 5.44, L_o = 36.59)

SACRAMENTO PEAK Np CORONA (1.15 $R_\odot$)
5303 Å

E NO DATA W

KITT PEAK Np MAGNETOGRAM
Bright - Plus
Dark - Minus

E W

1806 UT Sp

Sp
Np MT. WILSON MAGNETOGRAM
Solid-Plus
Dotted-Minus
DELTAY = 12.6
DELTAX = 9.4

E W

Levels
± 5
± 10
± 20
± 40
± 80

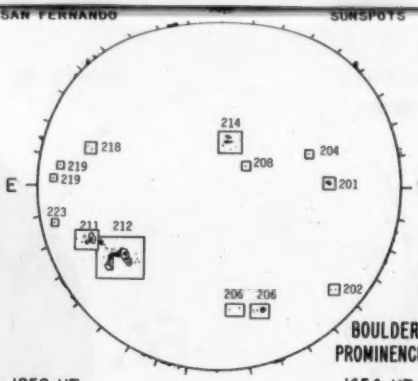
17.27-18.70 UT Sp

BOULDER Hα SAN FERNANDO SUNSPOTS HALE OBSERVATORIES CALCIUM REPORT

BOULDER Hα SAN FERNANDO SUNSPOTS HALE OBSERVATORIES CALCIUM REPORT

1454 UT

Sp



1850 UT

Sp

BOULDER PROMINENCES

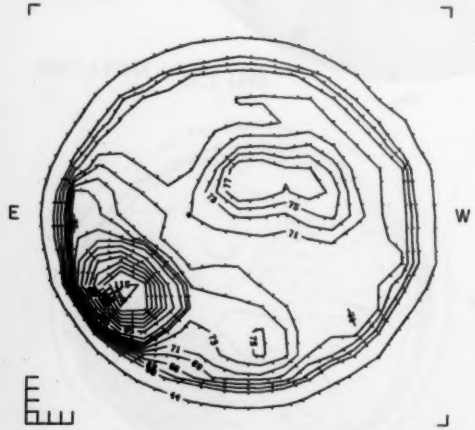
1454 UT

Sp

NO DATA

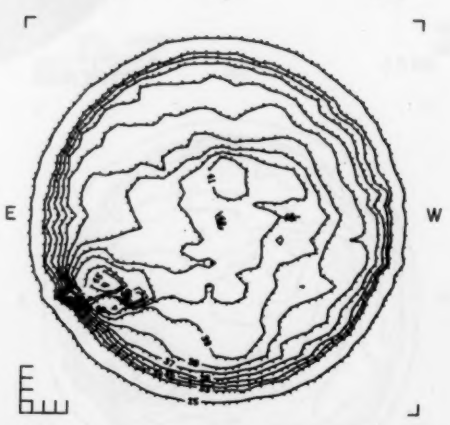
W

NOSC LA POSTA Np 2.0 CM



1750 UT Sp Ant. Temp. Unit 100° K

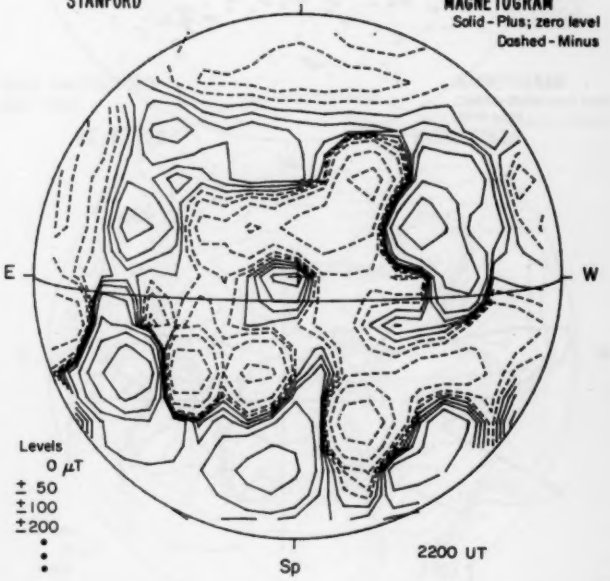
NOSC LA POSTA Np 8.6 MM



1820 UT Sp Ant. Temp. Unit 100° K

STANFORD Np

MAGNETOGRAM
Solid - Plus; zero level
Dashed - Minus

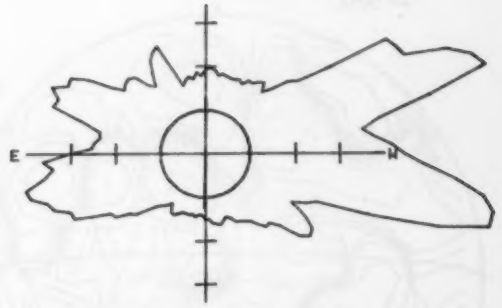


Sp 2200 UT

89
Oct 80

OCTOBER 21, 1980 (P = 25.88, B_o = 5.36, L_o = 23.40)

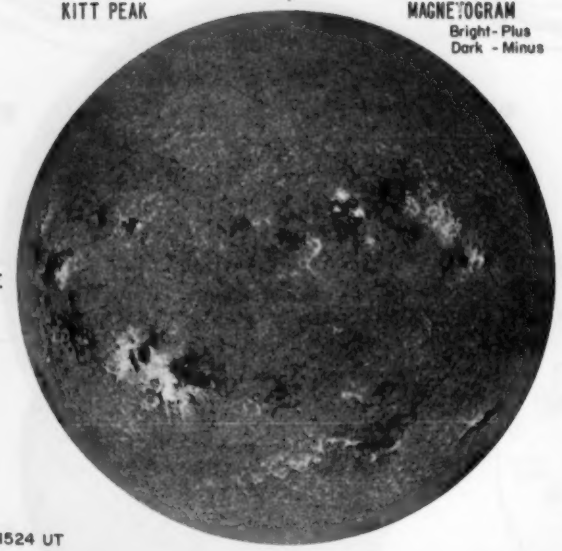
SACRAMENTO PEAK Np CORONA (1.15 $R_\odot$)
5303 Å



1506 UT

Sp

KITT PEAK Np MAGNETOGRAM
Bright - Plus
Dark - Minus

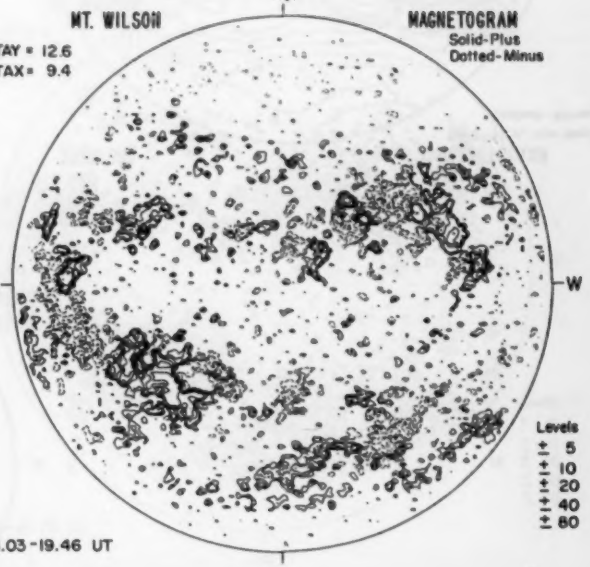


1524 UT

Sp

Np

MT. WILSON MAGNETOGRAM
Solid - Plus
Dotted - Minus
DELTAY = 12.6
DELTAX = 9.4



18.03 - 19.46 UT

Sp

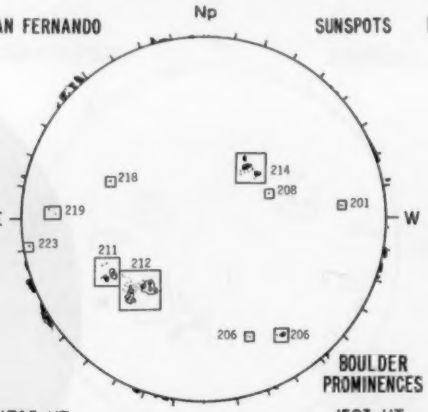
21

BOULDER Np Hα SAN FERNANDO Np SUNSPOTS HALE OBSERVATORIES Np CALCIUM REPORT

BOULDER

1503 UT

SAN FERNANDO



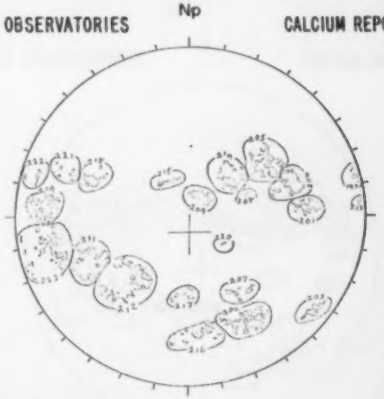
1745 UT

SUNSPOTS

BOULDER PROMINENCES

1503 UT

HALE OBSERVATORIES

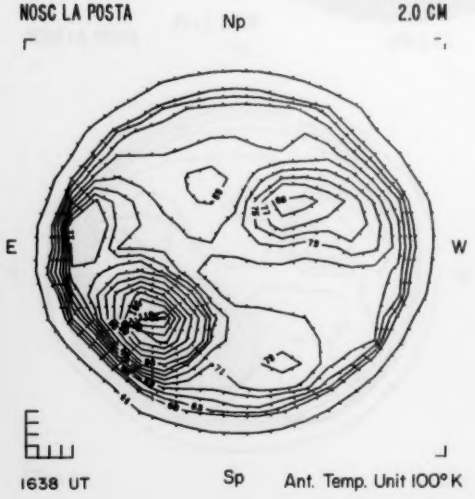


1433 UT

CALCIUM REPORT

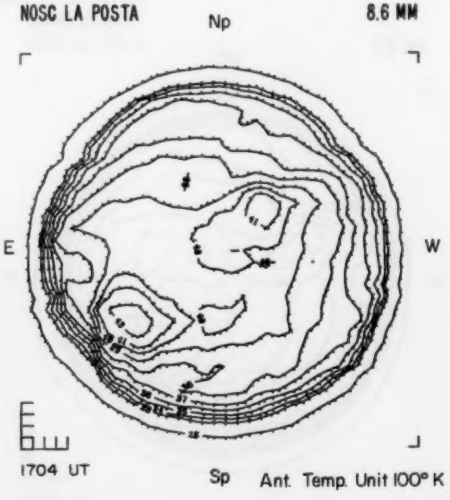
	GOOD	JA
01-	1400	3.0
02-	1300	2.5
04-	2300	3.0
05-	1500	2.5
06-	2000	2.5
08-	0200	2.5
09-	0800	2.5
11-	4000	3.5
12-	6700	4.0
14-	2000	4.0
18-	0800	3.0
19-	3000	2.5
22-	0600	2.5
23-	2800	2.5

NOSC LA POSTA



1638 UT

NOSC LA POSTA



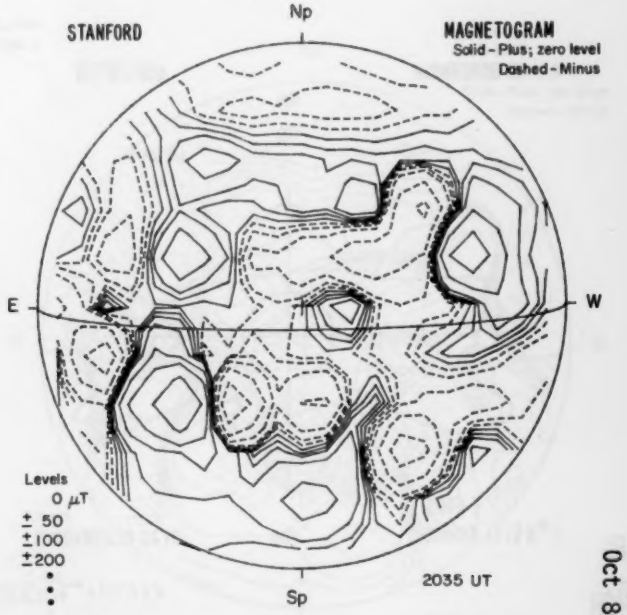
1704 UT

STANFORD

MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus



2035 UT

91

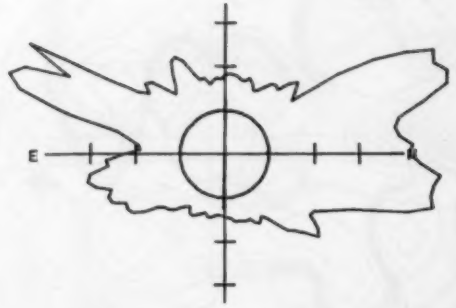
Oct 80

OCTOBER 22, 1980 (P=25.80, B_o=5.27, L_o=10.21)

SACRAMENTO PEAK

Np

CORONA (1.15 $R_\odot$)
5303 Å



1453 UT

Sp

Np

KITT PEAK

Np

MAGNETOGRAM
Bright - Plus
Dark - Minus

1436 UT

Sp

MT. WILSON

MAGNETOGRAM
Solid-Plus
Dotted-Minus

DELTAY =
DELTAX =

E

NO DATA

W

Levels
± 5
± ± 10
± ± ± 20
± ± ± ± 40
± ± ± ± ± 80

Sp

22

Np

Np

Np

Sp

Sp

22

BOULDER

Np

Hα

E

W

1841 UT

Sp

SAN FERNANDO

Np

SUNSPOTS

214

218

219

201

224

211

212

206

E

W

1645 UT

Sp

BOULDER PROMINENCES

1841 UT

HALE OBSERVATORIES

Np

CALCIUM REPORT

E

W

1420 UT

Sp

G000	JA
01-	1400-2.5
05-	1500-2.5
08-	0200-2.5
09-	0900-2.5
11-	4000-3.5
12-	6400-4.0
14-	2000-3.5
18-	0800-2.5
19-	3000-2.5
23-	3400-2.0
24-	0400-3.0

NOSC LA POSTA

Np

2.0 CM

E

W

1548 UT

Sp

Ant. Temp. Unit 100° K

NOSC LA POSTA

Np

8.6 MM

E

W

1623 UT

Sp

Ant. Temp. Unit 100° K

STANFORD

Np

MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus

E

W

Levels

0 μT

± 50

±100

±200

2034 UT

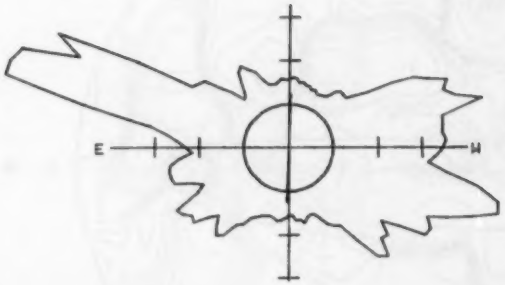
Sp

93

Oct 80

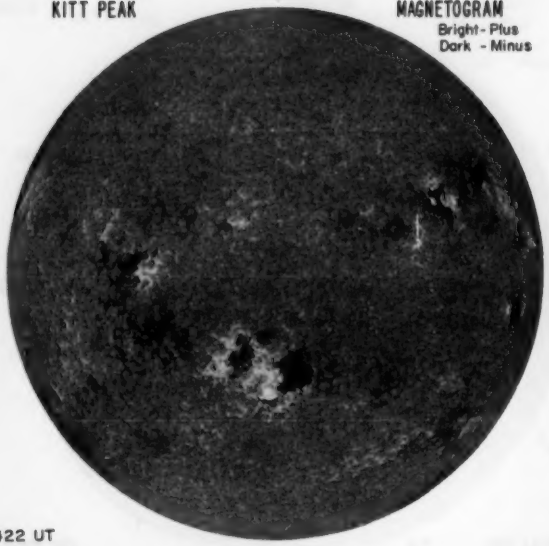
OCTOBER 23, 1980 (P = 25.70, B_o = 5.19, L_o = 357.02)

SACRAMENTO PEAK Np CORONA (1.15 $R_\odot$)
5303 Å



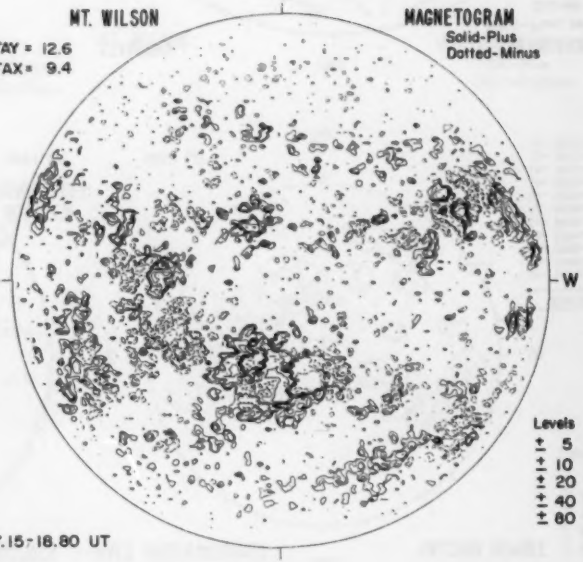
1752 UT

KITT PEAK Np MAGNETOGRAM
Bright - Plus
Dark - Minus



1422 UT

Sp
Np MT. WILSON MAGNETOGRAM
Solid-Plus
Dotted-Minus
DELTAY = 12.6
DELTAX = 9.4



17.15-18.80 UT

23

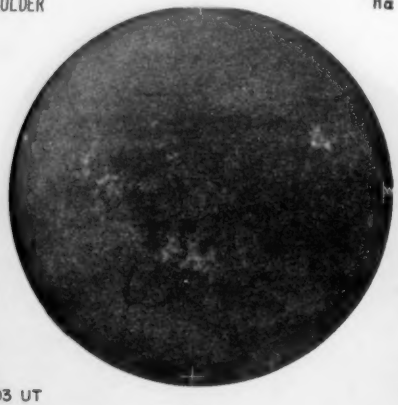
BOULDER Np Hα SAN FERNANDO Np SUNSPOTS HALE OBSERVATORIES Np CALCIUM REPORT

23

BOULDER

Np

Hα



E W

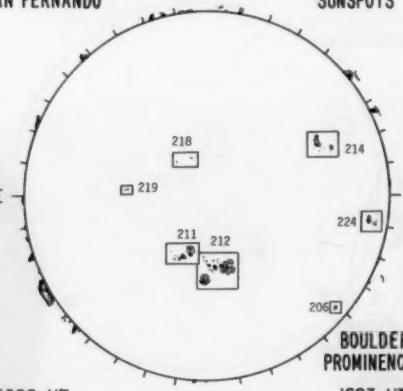
1603 UT

Sp

SAN FERNANDO

Np

SUNSPOTS



E W

1620 UT

Sp

BOULDER PROMINENCES

1603 UT

HALE OBSERVATORIES

Np

CALCIUM REPORT

E W

1512 UT

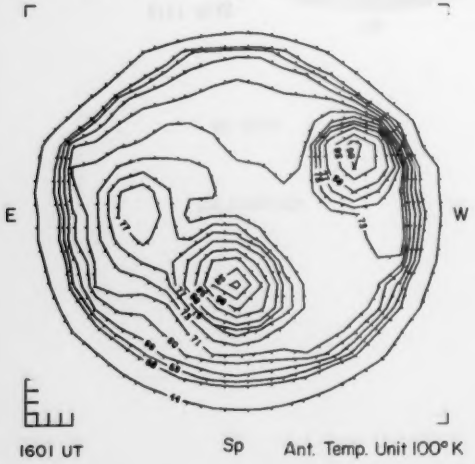
Sp

GOOD	JA
04- 1700-2.5	
05- 1500-2.5	
11- 3700-3.5	
12- 7000-4.0	
14- 2700-4.0	
18- 0800-2.5	
19- 3000-3.0	
23- 3600-2.5	
24- 0800-3.5	
25- 2500-3.0	

NOSC LA POSTA

Np

2.0 CM



E W

1601 UT

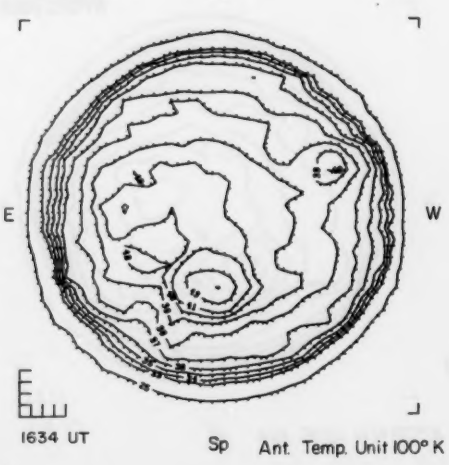
Sp

Ant. Temp. Unit 100° K

NOSC LA POSTA

Np

8.6 MM



E W

1634 UT

Sp

Ant. Temp. Unit 100° K

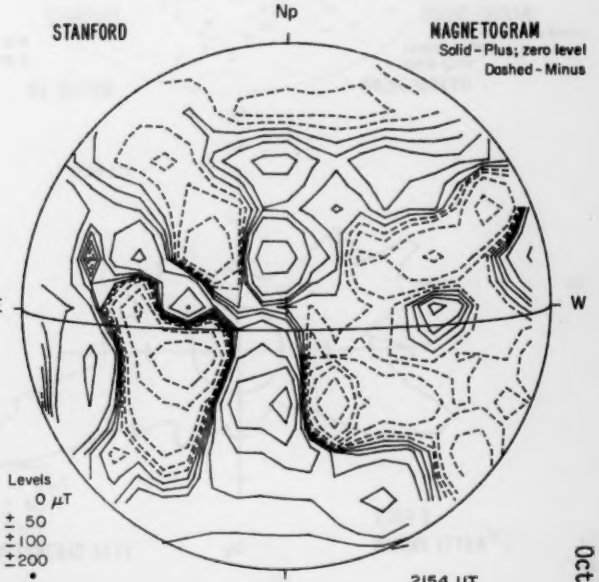
STANFORD

Np

MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus



E W

Levels

0 μT

± 50

±100

±200

•

•

•

2154 UT

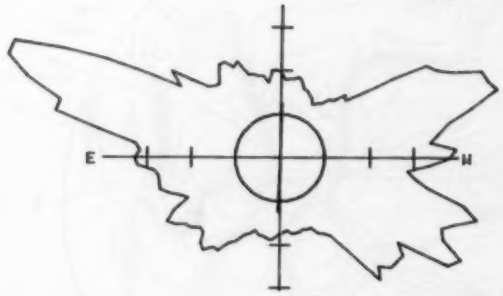
Sp

95

Oct 80

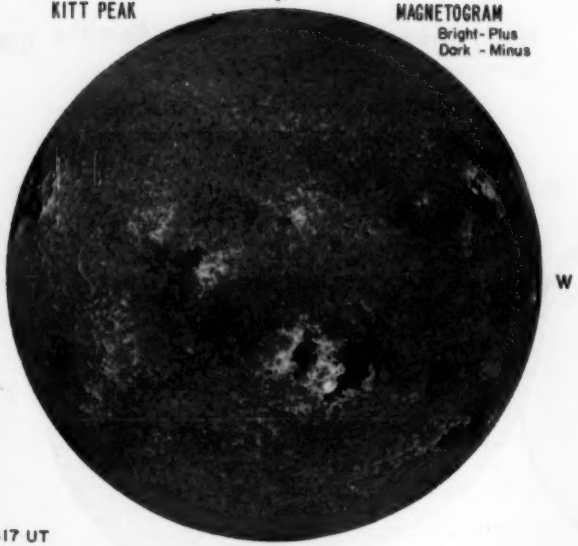
OCTOBER 24, 1980 (P = 25.60, B_o = 5.10, L_o = 343.84)

SACRAMENTO PEAK Np CORONA (1.15 $R_\odot$)
5303 Å



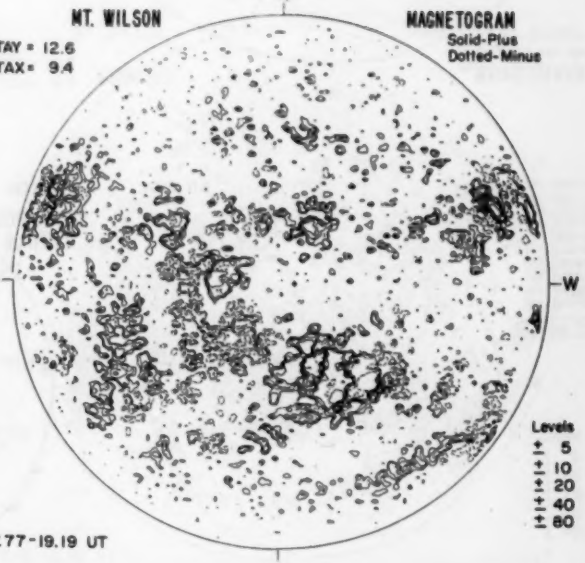
1639 UT

KITT PEAK Np MAGNETOGRAM
Bright - Plus
Dark - Minus



1417 UT

Sp
Np
MT. WILSON MAGNETOGRAM
Solid-Plus
Dotted-Minus
DELTAY = 12.6
DELTAX = 9.4

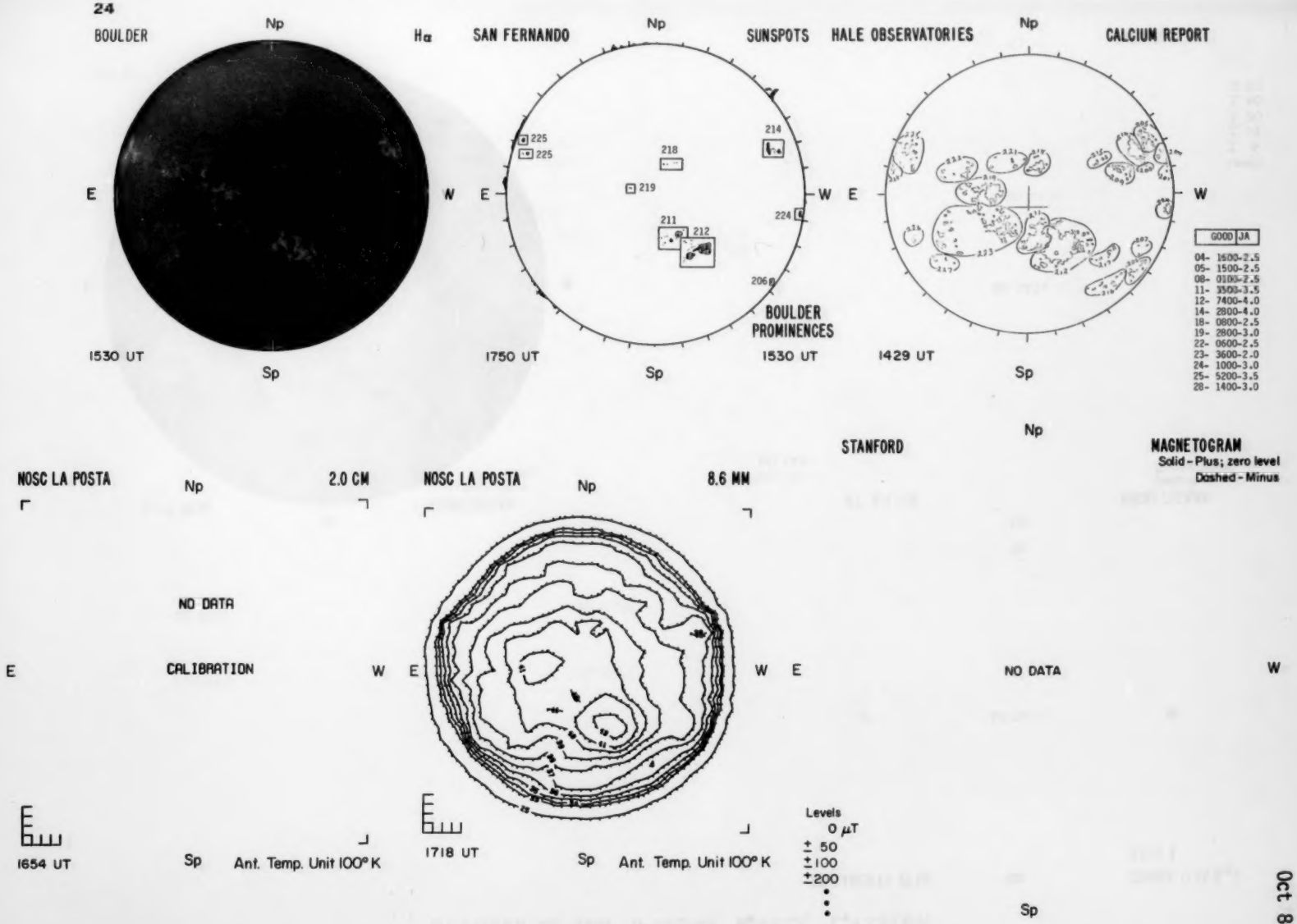


17.77-19.19 UT

Sp

24
BOULDER Np Hα SAN FERNANDO Np SUNSPOTS HALE OBSERVATORIES Np CALCIUM REPORT

24


BOULDER
Np
Hα
E
W
1530 UT
Sp
SAN FERNANDO
Np
SUNSPOTS
E
W
225
225
218
219
214
211
212
224
206
BOULDER PROMINENCES
1750 UT
Sp
1530 UT
HALE OBSERVATORIES
Np
CALCIUM REPORT
E
W
1429 UT
Sp
GOOD JA
04- 1600-2.5
05- 1500-2.5
08- 0100-2.5
11- 3500-3.5
12- 7400-4.0
14- 2800-4.0
18- 0800-2.5
19- 2800-3.0
22- 0600-2.5
23- 3600-2.0
24- 1000-3.0
25- 5200-3.5
28- 1400-3.0
STANFORD
Np
MAGNETOGRAM
Solid - Plus; zero level
Dashed - Minus
NOSC LA POSTA
Np
2.0 CM
NO DATA
E
CALIBRATION
W
1654 UT
Sp
Ant. Temp. Unit 100° K
NOSC LA POSTA
Np
8.6 MM
E
W
1718 UT
Sp
Ant. Temp. Unit 100° K
Levels
0 μT
± 50
± 100
± 200
E
NO DATA
W
Sp

OCTOBER 25, 1980 (P = 25.49, B_o = 5.01, L_o = 330.65)

98 Oct 80

SACRAMENTO PEAK

Np

CORONA (1.15 $R_\odot$)
5303 Å

E

NO DATA

W

Sp

Np

KITT PEAK

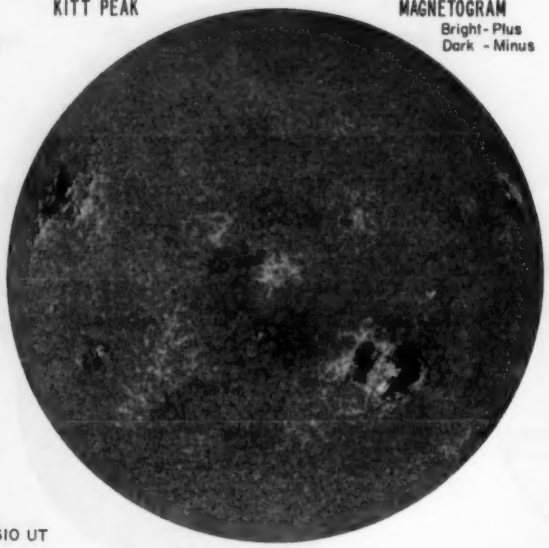
Np

MAGNETOGRAM
Bright - Plus
Dark - Minus

MT. WILSON

DELTAY =
DELTAX =

MAGNETOGRAM
Solid - Plus
Dotted - Minus



E

W

1610 UT

Sp

E

NO DATA

W

Levels
± 5
± 10
± 20
± 40
± 80

Sp

25

BOULDER

Np

Hα

SAN FERNANDO

Np

SUNSPOTS

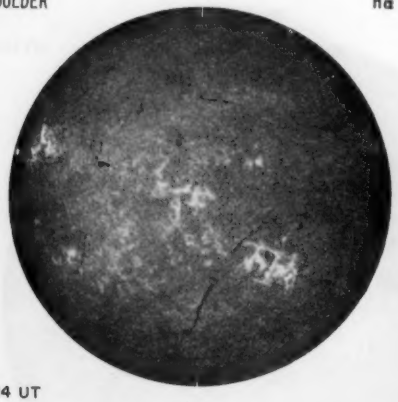
HALE OBSERVATORIES

Np

CALCIUM REPORT

25

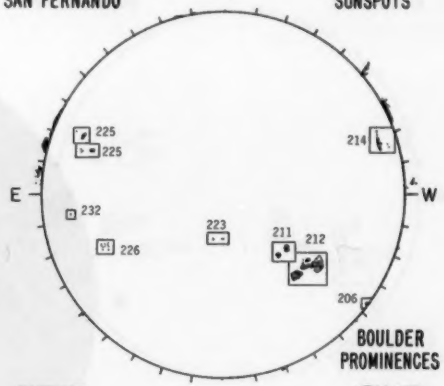
BOULDER Np Hα



E W

1714 UT Sp

SAN FERNANDO Np



E W

1540 UT Sp

SUNSPOTS HALE OBSERVATORIES Np

BOULDER PROMINENCES

1714 UT

NO DATA

Sp

CALCIUM REPORT

E W

NOSC LA POSTA Np 2.0 CM

NO DATA

SCHEDULE

E W

---- UT Sp Ant. Temp. Unit 100° K

NOSC LA POSTA Np 8.6 MM

NO DATA

SCHEDULE

E W

---- UT Sp Ant. Temp. Unit 100° K

STANFORD Np

MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus

NO DATA

E W

Levels

0 μT

± 50

±100

±200

•

•

•

Sp

99

Oct 80

OCTOBER 26, 1980 (P = 25.37, B_o = 4.92, L_o = 317.46)

SACRAMENTO PEAK

Np

CORONA (1.15 $R_\odot$)
5303 Å

E

NO DATA

W

Sp

Np

KITT PEAK

MAGNETOGRAM
Bright - Plus
Dark - Minus

MT. WILSON

DELTAY =
DELTAX =

MAGNETOGRAM
Solid - Plus
Dotted - Minus

E

W

2341 UT

E

NO DATA

W

Levels
± 5
± 10
± 20
± 40
± 80

Sp

Sp

26

Np

Hα

SAN FERNANDO

Np

SUNSPOTS

HALE OBSERVATORIES

Np

CALCIUM REPORT

26

Np

Hα

NO DATA

E W

Sp

SAN FERNANDO

Np

225 225 228 214 232 223 226 211 211 212

E W

1610 UT

Sp

SUNSPOTS

BOULDER PROMINENCES

NO DATA

HALE OBSERVATORIES

Np

E W

1455 UT

Sp

CALCIUM REPORT

GOOD	JA

11- 3500-3.5
12- 6500-4.0
14- 2700-3.5
18- 0700-3.0
19- 2500-3.0
22- 0600-2.5
23- 3300-2.0
25- 6500-3.5
26- 1000-3.0
28- 1800-3.0
31- 0700-2.5
32- 0700-4.0

NOSC LA POSTA

Np

2.0 CM

NO DATA

E W

SCHEDULE

---- UT

Sp

Ant. Temp. Unit 100° K

NOSC LA POSTA

Np

8.6 MM

NO DATA

E W

SCHEDULE

---- UT

Sp

Ant. Temp. Unit 100° K

STANFORD

Np

MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus

E W

Levels

0 μT

± 50

±100

±200

Sp

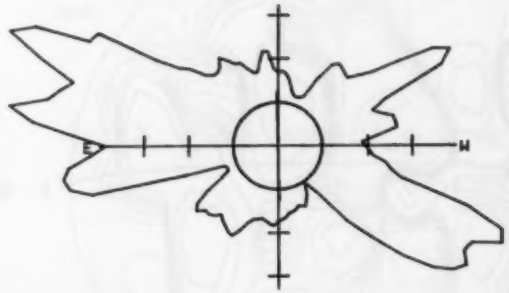
1914 UT

101

Oct 80

OCTOBER 27, 1980 (P = 25.25, B_o = 4.82, L_o = 304.27)

SACRAMENTO PEAK Np CORONA (1.15 $R_\odot$)
5303 Å

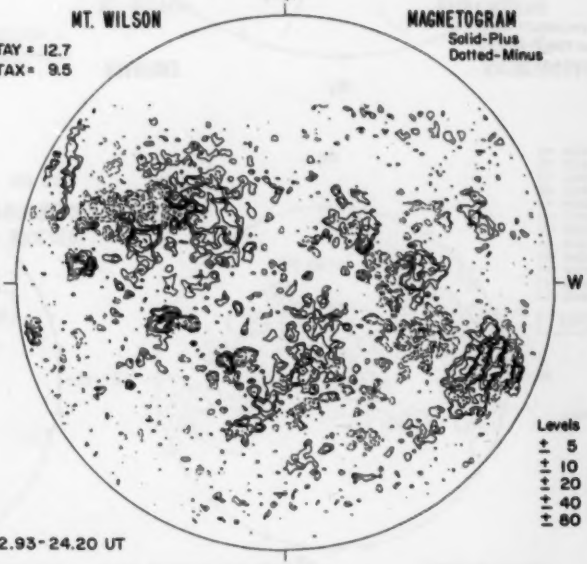


1719 UT

KITT PEAK Np MAGNETOGRAM
Bright - Plus
Dark - Minus

1419 UT

Sp
Np
MT. WILSON MAGNETOGRAM
Solid-Plus
Dotted-Minus
DELTAY = 12.7
DELTAX = 9.5



22.93-24.20 UT

Np Hα SAN FERNANDO Np SUNSPOTS HALE OBSERVATORIES Np CALCIUM REPORT

Hα

Np

NO DATA

E W

Sp

SAN FERNANDO

Np

235 225 228 231 232 226 211 212

E W

1620 UT

Sp

SUNSPOTS HALE OBSERVATORIES

BOULDER PROMINENCES

NO DATA

Np

E W

1436 UT

Sp

CALCIUM REPORT

GOOD	JA

11- 3500-3.5
12- 6200-3.5
18- 0400-3.0
19- 2300-2.5
23- 3500-2.5
25- 6200-3.5
26- 1000-3.0
28- 1800-3.0
29- 0700-3.0
31- 1000-3.0
32- 1100-3.0
33- 0400-2.5

NOSC LA POSTA

Np

2.0 CM

E W

1758 UT

Sp

Ant. Temp. Unit 100° K

NOSC LA POSTA

Np

8.6 MM

E W

1826 UT

Sp

Ant. Temp. Unit 100° K

STANFORD

Np

MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus

E W

Levels

0 μT

± 50

±100

±200

Sp

2303 UT

103

Oct 80

OCTOBER 28, 1980 (P = 25.12, B_o = 4.73, L_o = 291.08)

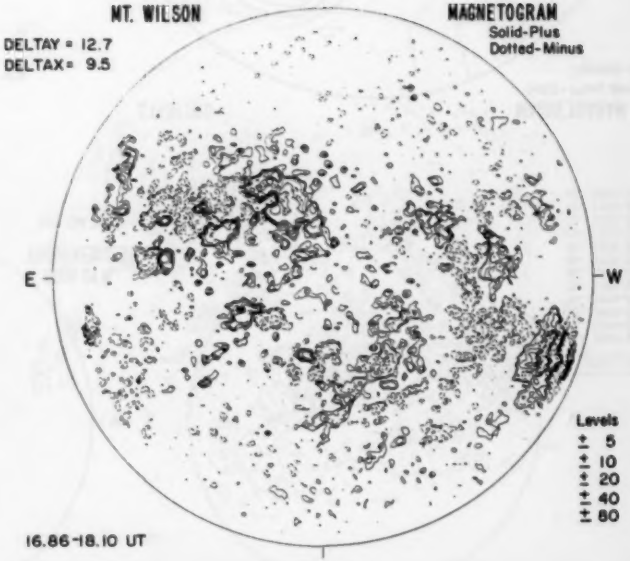
SACRAMENTO PEAK Np CORONA (1.15 $R_\odot$)
5303 Å

E NO DATA W

KITT PEAK Np MAGNETOGRAM
Bright - Plus
Dark - Minus

2255 UT

Sp
Np
MT. WILSON
MAGNETOGRAM
Solid-Plus
Dotted-Minus
DELTAY = 12.7
DELTAX = 9.5



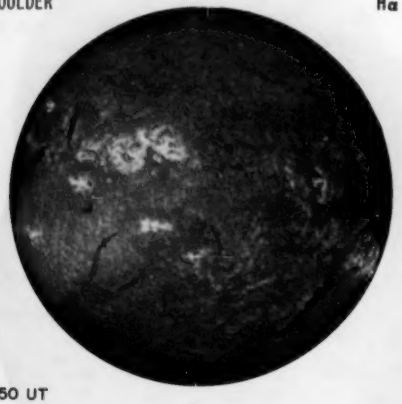
16.86-18.10 UT

28
BOULDER Np Hα SAN FERNANDO Np SUNSPOTS HALE OBSERVATORIES Np CALCIUM REPORT

28

BOULDER

Np



E W

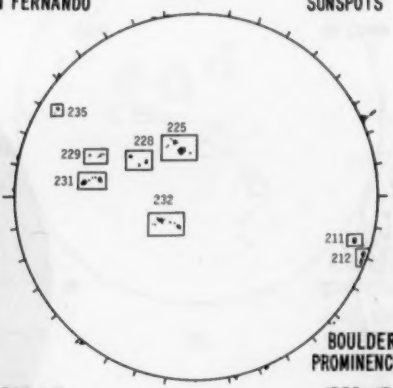
Sp

1550 UT

Hα

SAN FERNANDO

Np



E W

Sp

2300 UT

SUNSPOTS

HALE OBSERVATORIES

Np

NO DATA

E W

Sp

1550 UT

BOULDER PROMINENCES

CALCIUM REPORT

NOSC LA POSTA

Np

2.0 CM

NO DATA

E W

WEATHER

Sp

---- UT

Ant. Temp. Unit 100° K

NOSC LA POSTA

Np

8.6 MM

NO DATA

E W

WEATHER

Sp

---- UT

Ant. Temp. Unit 100° K

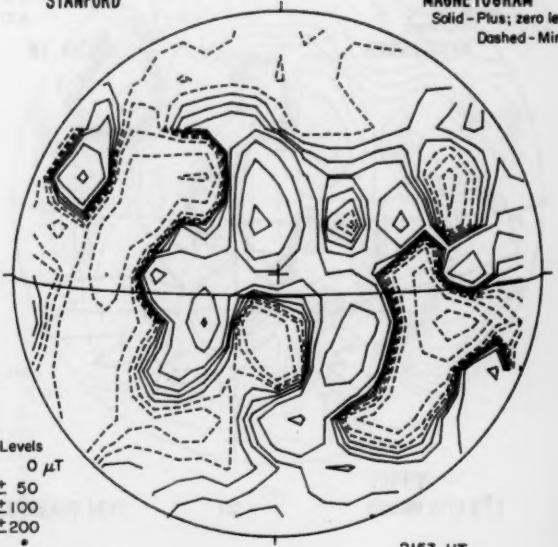
STANFORD

Np

MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus



E W

Sp

2153 UT

Levels

0 μT

± 50

±100

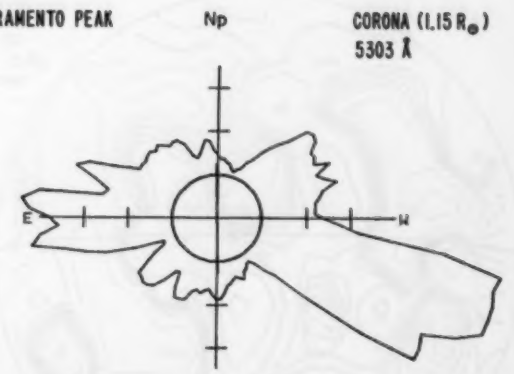
±200

105

Oct 80

OCTOBER 29, 1980 (P = 24.98, B_o = 4.63, L_o = 277.90)

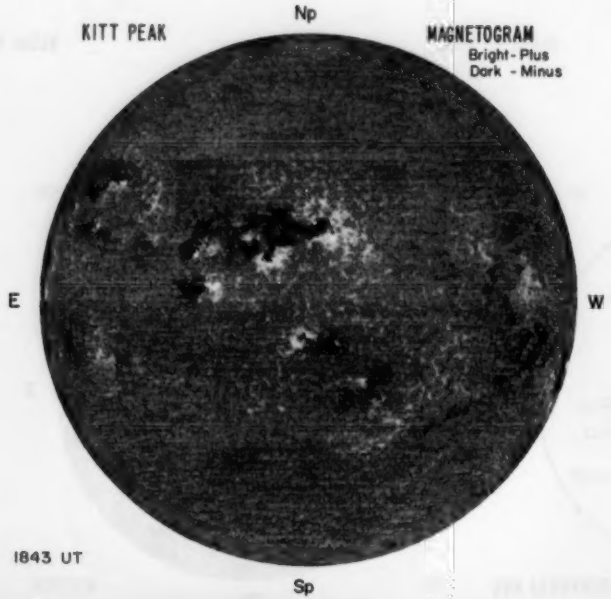
SACRAMENTO PEAK



1546 UT

Sp

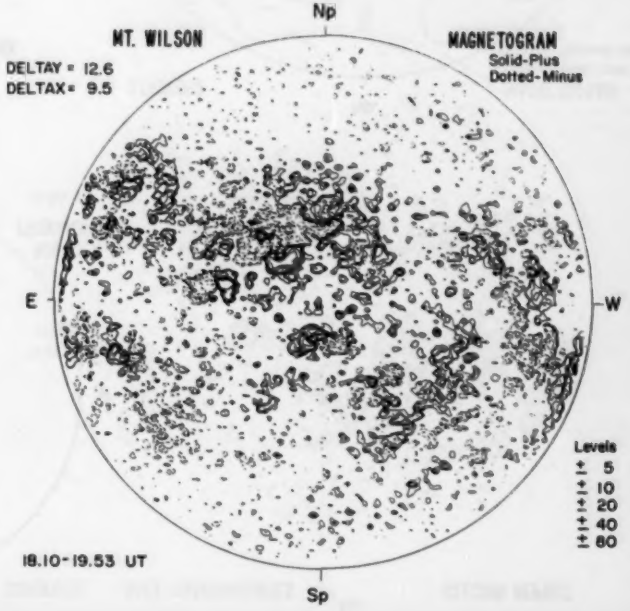
KITT PEAK



1843 UT

Sp

MT. WILSON

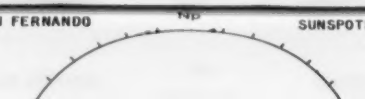


18.10-19.53 UT

Sp

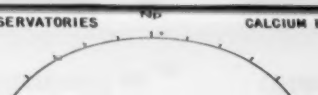
BOULDER

SAN FERNANDO



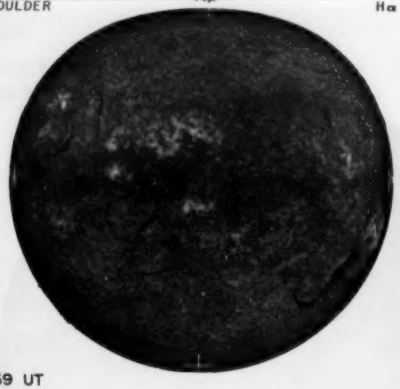
SUNSPOTS

HALE OBSERVATORIES



CALCIUM REPORT

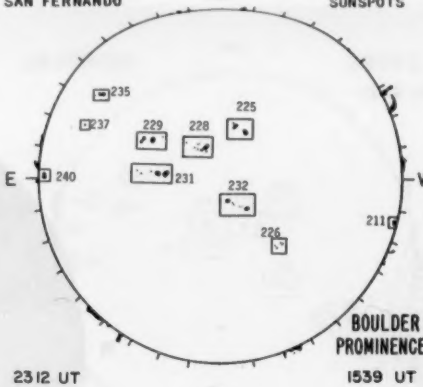
BOULDER Np Hα



1539 UT

Sp

SAN FERNANDO Np SUNSPOTS



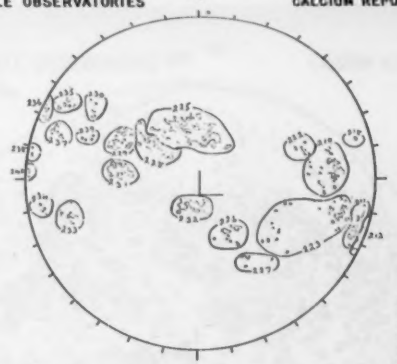
2312 UT

Sp

BOULDER PROMINENCES

1539 UT

HALE OBSERVATORIES Np CALCIUM REPORT



1406 UT

Sp

GOOD	JA

11- 2400-3.0
12- 5800-3.0
19- 1700-2.5
22- 0300-2.5
25- 5600-3.5
26- 1000-3.5
28- 1500-3.0
29- 0800-4.0
31- 1500-3.5
32- 1100-3.0
35- 0700-3.5
36- 1000-3.0
37- 0500-2.5
40- 0900-4.0

NOSC LA POSTA Np 2.0 CM

NO DATA

E WEATHER W

---- UT Sp Ant. Temp. Unit 100° K

NOSC LA POSTA Np 8.6 MM

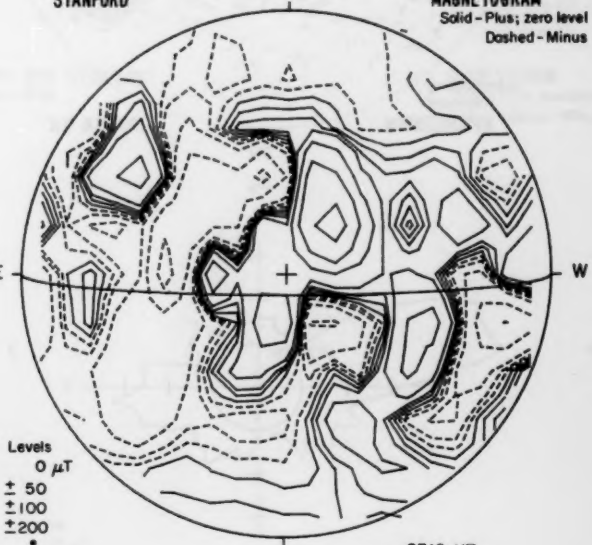
NO DATA

E WEATHER W

---- UT Sp Ant. Temp. Unit 100° K

STANFORD Np MAGNETOGRAM

Solid - Plus; zero level
Dashed - Minus



Levels
0 μT
± 50
± 100
± 200

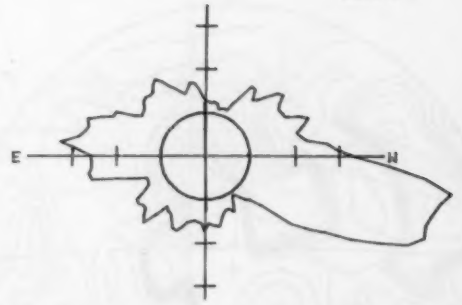
Sp

2310 UT

107
Oct 80

OCTOBER 30, 1980 (P = 24.83, B_o = 4.53, L_o = 264.71)

SACRAMENTO PEAK Np CORONA (1.15 $R_\odot$)
5303 Å

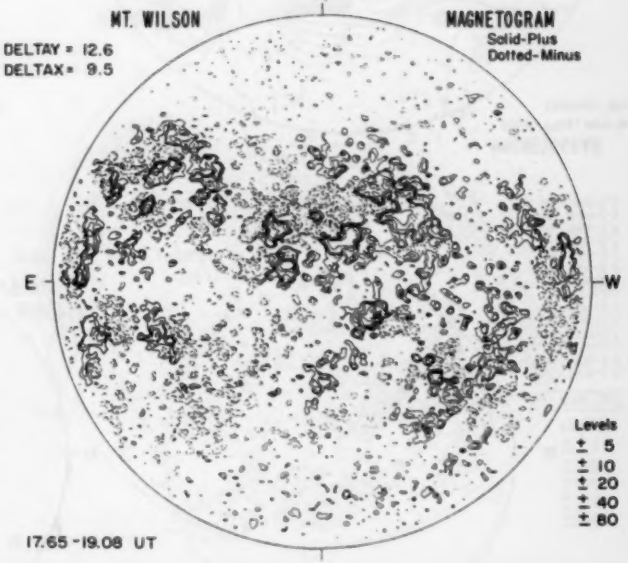


2223 UT

KITT PEAK Np MAGNETOGRAM
Bright - Plus
Dark - Minus

1522 UT

Sp
Np
MT. WILSON MAGNETOGRAM
Solid-Plus
Dotted-Minus
DELTAY = 12.6
DELTAX = 9.5



17.65 - 19.08 UT

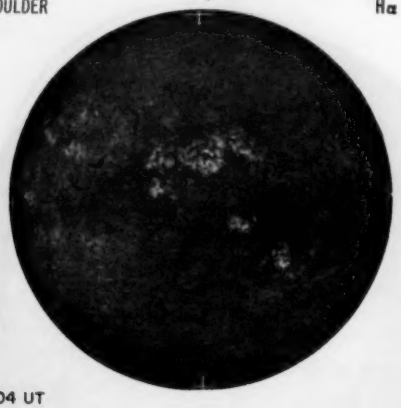
30
BOULDER Np Hα SAN FERNANDO Np SUNSPOTS HALE OBSERVATORIES Np CALCIUM REPORT

30

BOULDER

Np

Hα



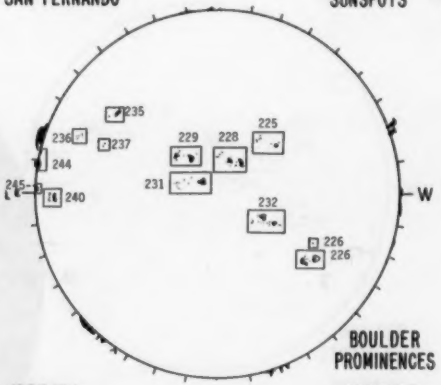
E W

Sp

1604 UT

SAN FERNANDO

Np



W E

Sp

1950 UT

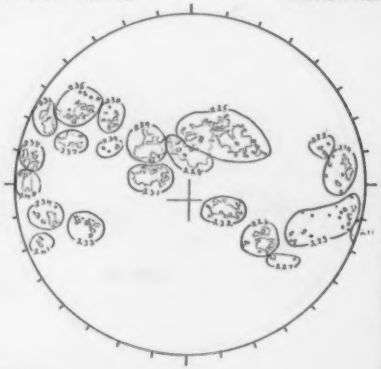
SUNSPOTS

BOULDER PROMINENCES

1604 UT

HALE OBSERVATORIES

Np



W E

Sp

1512 UT

CALCIUM REPORT

GOOD	JA

11- 2000-2.5
19- 1500-2.5
22- 0400-2.5
25- 5700-3.5
26- 1400-3.5
28- 1800-3.0
29- 2100-3.5
30- 0500-2.5
31- 1800-3.5
32- 1400-3.0
33- 0700-2.5
35- 1300-3.0
36- 1600-3.0
37- 1400-3.0
40- 1700-3.5

STANFORD

Np

MAGNETOGRAM

Solid - Plus; zero level
Dashed - Minus

NOSC LA POSTA

Np

2.0 CM

NO DATA

E

WEATHER

W

---- UT

Sp

Ant. Temp. Unit 100° K

NOSC LA POSTA

Np

8.6 MM

NO DATA

E

WEATHER

W

---- UT

Sp

Ant. Temp. Unit 100° K

NO DATA

E W

Levels
0 μT
± 50
±100
±200
• • •

Sp

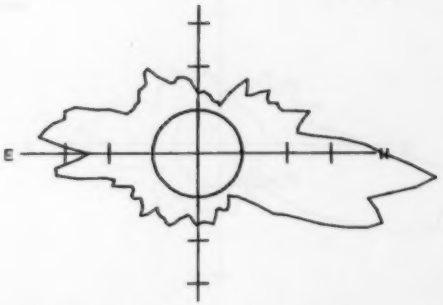
109
Oct 80

OCTOBER 31, 1980 (P=24.67, B_o=4.43, L_o=251.52)

SACRAMENTO PEAK

Np

CORONA (1.15 $R_\odot$)
5303 Å



1426 UT

Sp

Np

KITT PEAK

Np

MAGNETOGRAM
Bright - Plus
Dark - Minus

508 UT

Sp

MT. WILSON

MAGNETOGRAM
Solid-Plus
Dotted-Minus

DELTAY =
DELTAX =

E

NO DATA

W

Levels
± 5
± 10
± 20
± 40
± 60

Sp

31

Np

Hα

SAN FERNANDO

Np

SUNSPOTS

HALE OBSERVATORIES

Np

CALCIUM REPORT

31

Np

Hα

NO DATA

E W

Sp

SAN FERNANDO

Np

235 236 244 245 240 229 228 225 231 232 226

E W

2112 UT

Sp

SUNSPOTS

BOULDER PROMINENCES

NO DATA

HALE OBSERVATORIES

Np

E W

1534 UT

Sp

CALCIUM REPORT

FAIR	JA

25- 5900-3.5
26- 1200-3.0
27- 0300-2.5
28- 2000-3.0
29- 2000-3.5
30- 0500-2.5
31- 1400-3.5
32- 1700-3.0
33- 0900-2.5
35- 1400-2.5
36- 2300-3.0
37- 1200-3.0
40- 1400-3.0
42- 0200-3.0
43- 0200-2.5
44- 4000-4.0
45- 0800-3.0

STANFORD

Np

MAGNETOGRAM

Solid - Plus; zero level

Dashed - Minus

NOSC LA POSTA

Np

2.0 CM

NO DATA

E

WEATHER

W

---- UT

Sp

Ant. Temp. Unit 100° K

NOSC LA POSTA

Np

8.6 MM

NO DATA

E

WEATHER

W

---- UT

Sp

Ant. Temp. Unit 100° K

Levels

0 μT

± 50

±100

±200

E

NO DATA

W

Sp

111

Oct 80

REGIONS OF SOLAR ACTIVITY

OCTOBER 1980

HALE REGION 17173 CMP DATE 2.6 TRAILING PORTION IS 17092, REST IS NEW ROTATIONS 2 AND 1

			CALCIUM PLAGE DATA						SUNSPOT DATA								
YR	MO	DA	HL NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	09	26	17173						21775	N19	E88	256	(X)	2	R	30	7	BXO
80	09	26	17173						21774	N22	E58	286	(X)	1				
80	09	27	17173	N22	E56	271	2700	3.5	21775	N20	E70	261	(AF)	3	B	80	4	DSI
80	09	28	17173	N22	E47	267	5500	3.5	21775	N21	E58	260	(BF)	3	B	110	3	CSO
80	09	29	17173	N22	E35	268	4400	3.5	21775	N21	E45	260	(AF)	4	H	30	3	CAO
80	09	30	17173	N22	E22	267	4000	3.5	21775	N21	E30	262	(BF)	4	H	70	17	DAO
80	10	1	17173						21775	N22	E17	261	(BF)	4	H	130	30	DAI
80	10	1	17173						21788	N21	E07	271	(AP)	2	B	50	13	DSO
80	10	2	17173	N23	W01	266	3700	3.5	21788	N21	W08	273	AP	2	H	20	6	CSO
80	10	2	17173	N23	W01	266	3700	3.5	21775	N21	E03	262	(B)	3	H	80	13	DAO
80	10	3	17173	N24	W14	265	3500	3.5	21788	N21	W22	274	(AF)	2	B		1	AXX
80	10	3	17173	N24	W14	265	3500	3.5	21775	N21	W09	261	(AF)	3	H	20	3	CRO
80	10	4	17173	N23	W27	264	3100	3.5	21775	N20	W20	259	(AF)	3	H	10	2	BXO
80	10	4	17173	N23	W27	264	3100	3.5	21788	N21	W31	270	(AP)	3	H		1	AXX
80	10	5	17173	N24	W38	262	3000	3.5	21788	N22	W44	269	(AP)	2				
80	10	5	17173	N24	W38	262	3000	3.5	21802	N33	W36	261	(B)	2	B	10	1	AXX
80	10	6	17173	N24	W51	261	2400	3.5	21775	N22	W50	262	(AF)	2				
80	10	6	17173	N24	W51	261	2400	3.5	21805	N17	W57	269	(AP)	2	L		2	AXX
80	10	8	17173	N24	W76	259	600	3.0										

HALE REGION 17172 CMP DATE 3.1

			CALCIUM PLAGE DATA						SUNSPOT DATA								
YR	MO	DA	HL NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	09	26	17172						21773	N28	E78	266	(AP)	3	B	80	1	HSX
80	09	27	17172	N31	E64	263	300	3.0	21773	N29	E65	266	(AP)	4	B	60	1	HSX
80	09	28	17172	N31	E53	261	600	3.0	21773	N29	E52	266	(BP)	4	B	90	2	HSX
80	09	29	17172	N31	E42	261	400	2.5	21773	N29	E39	266	(AP)	4	H	50	1	HSX
80	09	30	17172	N30	E30	259	200	3.0	21773	N30	E27	265	(AP)	4	H	40	1	HSX
80	10	1	17172						21773	N29	E13	265	(AP)	4	H	40	4	HAX
80	10	2	17172	N32	E05	260	100	2.5	21773	N29	W00	265	(AP)	4	H	20	2	CSO
80	10	3	17172						21773	N29	W14	266	(AP)	2	H		1	AXX

HALE REGION 17174 CMP DATE 3.9 LEADING EDGE IS 17093, REST IS NEW ROTATIONS 2 AND 1

			CALCIUM PLAGE DATA						SUNSPOT DATA								
YR	MO	DA	HL NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	09	27	17174	N15	E76	251	1100	4.0	21779	N14	E80	251	(BP)	4	B	270	12	ESI
80	09	28	17174	N15	E64	250	2000	4.0	21779	N14	E69	249	(BY)	4	B	880	33	EHI
80	09	29	17174	N16	E52	251	3200	4.0	21779	N15	E55	250	(BY)	4	H	230	25	DKI
80	09	30	17174	N16	E38	251	3400	4.5	21779	N15	E42	250	(BY)	5	H	290	26	EKO
80	10	1	17174						21790	N15	E19	259	(B)	3	H	400	37	EAI
80	10	1	17174						21779	N15	E28	250	(BY)	4	H	400	37	EAI
80	10	2	17174	N15	E16	249	3400	4.0	21779	N15	E15	250	(B)	4	H	150	30	ESI
80	10	3	17174	N16	E03	248	3200	4.0	21779	N14	W00	252	(B)	4	P	220	26	DAI
80	10	4	17174	N16	W12	249	3300	4.0	21779	N13	W13	252	(BP)	4	H	140	28	DAI
80	10	5	17174	N16	W25	249	3100	4.0	21779	N13	W25	250	(B)	4	B	100	21	DAO
80	10	6	17174	N16	W37	247	3700	3.5	21779	N13	W37	249	(B)	4	B	110	18	DSI
80	10	7	17174						21779	N14	W53	252	(BP)	4	H	80	6	DSO
80	10	8	17174	N15	W66	249	1800	3.5	21779	N14	W65	251	(B)	3	B	120	5	DRO
80	10	9	17174	N15	W79	249	2200	3.5	21779	N14	W77	250	B	1	H	40	3	DAO

HALE REGION 17175 CMP DATE 5.3 17095 AND REAR OF 17096 ROTATION 2 AND 7

			CALCIUM PLAGE DATA						SUNSPOT DATA								
YR	MO	DA	HL NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	09	29	17175	N15	E75	228	500	2.5		N15	E82				H		1	AXX
80	09	30	17175	N16	E63	226	1600	3.5		N14	E72				B	10	1	HRX
80	10	2	17175	N18	E34	231	2000	3.0		N14	E44				M	70	8	ESO
80	10	3	17175	N18	E23	228	1300	3.0		N14	E33				B	30	4	CRO
80	10	4	17175	N20	E07	230	1200	3.0	21797	N17	E12	227	(AF)	4	H		1	AXX
80	10	5	17175	N18	W05	229	1100	3.0										

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HALE REGION 17175 (CONT) CMP DATE 5.3 17095 AND REAR OF 17096 ROTATION 2 AND 7

			CALCIUM PLAGE DATA						SUNSPOT DATA								
YR	MO	DA	HL NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	10	6	17175	N18	W20	230	1100	3.0	21806	N19	W15	227	(AP)	3	B		1	AXX
80	10	8	17175	N18	W45	228	1200	3.0		N13	W35				P	20	4	BXO
80	10	9	17175	N15	W65	235	300	3.0		N13	W73				L	50	10	EAO
80	10	10	17175	N14	W78	237	1000	2.0										

HALE REGION 17177 CMP DATE 6.6

			CALCIUM PLAGE DATA						SUNSPOT DATA								
YR	MO	DA	HL NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	09	29	17177						21782	N15	E85	220	X	2	H		1	AXX
80	09	30	17177						21782	N15	E77	215	(B)	4	H	60	5	CAO
80	10	1	17177						21782	N15	E64	214	(BF)	4	H	60	14	ESO
80	10	2	17177	N15	E51	214	2600	3.5	21782	N15	E49	216	(B)	4	H	60	13	EAO
80	10	2	17177	N15	E51	214	2600	3.5	21792	N16	E61	204	(AP)	3	M	100	10	EAO
80	10	3	17177	N15	E37	214	2200	3.5	21782	N15	E35	217	(B)	3	H	50	12	CSO
80	10	4	17177	N16	E23	214	2100	3.5	21782	N15	E22	217	(B)	3	H	30	12	BXO
80	10	5	17177	N16	E11	213	1900	3.5	21782	N16	E10	215	(B)	3	B	60	7	CSO
80	10	6	17177	N15	W03	213	1600	3.5	21782	N15	W02	214	(AF)	3	B	10	4	BXO
80	10	6	17177	N15	W03	213	1600	3.5	21807	N10	W02	214	(AF)	2	B	10	4	BXO
80	10	7	17177						21782	N15	W16	215	(B)	2	H	30	7	CRO
80	10	8	17177	N15	W29	212	1500	3.5	21782	N15	W27	213	(AF)	3	R	10	5	BXO
80	10	9	17177	N14	W42	212	3900	3.5	21782	N15	W45	218	(AP)	3				
80	10	10	17177	N14	W55	214	3300	2.0	21782	N15	W59	218	AP	1	L		1	AXX
80	10	11	17177	N15	W67	214	1300	3.0										
80	10	12	17177	N16	W75	209	700	2.0										

HALE REGION 17192 CMP DATE 6.9

			CALCIUM PLAGE DATA						SUNSPOT DATA								
YR	MO	DA	HL NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	10	8	17192	S08	W25	208	100	2.5										
80	10	9	17192	S07	W38	208	300	3.0	21815	S07	W34	207	(AF)	2	H	10	3	BXO
80	10	10	17192	S07	W48	207	300	2.5	21815	S07	W48	207	B	2	B	10	1	AXX
80	10	11	17192	S07	W62	209	100	2.5										
80	10	12	17192	S06	W75	209	100	1.0										

HALE REGION 17178 CMP DATE 7.9

			CALCIUM PLAGE DATA						SUNSPOT DATA								
YR	MO	DA	HL NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	10	2	17178	S06	E69	196	500	3.5										
80	10	3	17178	S06	E56	195	300	3.5	21796	S08	E57	195	(AP)	2	H	10	2	BXO
80	10	4	17178	S06	E39	198	300	3.5	21798	S06	E48	199	(AP)	2				
80	10	5	17178	S05	E28	196	500	3.5		S10	E36				B	40	6	DSO
80	10	6	17178	S06	E14	196	400	3.0		S09	E23				B	10	2	BXO
80	10	8	17178	S07	W15	198	200	3.0		S08	W06				B	20	9	BXO
80	10	9	17178	S05	W27	197	300	3.5		S07	W34				H	10	3	BXO
80	10	10	17178	S04	W39	198	200	1.5		S07	W33				B	150	10	DAI
80	10	11	17178	S04	W53	200	100	2.5		S09	W46				H	110	16	DAI
80	10	12	17178	S03	W67	201	100	1.5		S08	W62				H	120	12	DAO

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HALE REGION 17179 CMP DATE 8.0 RETURN OF REGION 17106 ROTATION 2 AND 6

			CALCIUM PLAGE DATA						SUNSPOT DATA								
YR	MO	DA	HL NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	10	2	17179	S24	E72	193	400	3.0	21793	S25	E71	194	(AP)	2	H	120	1	HSX
80	10	3	17179	S26	E55	196	700	3.0	21793	S26	E58	194	(AP)	3	H	140	2	HAX
80	10	4	17179	S26	E40	197	300	3.0	21793	S25	E45	194	(AP)	4	H	140	2	HAX
80	10	5	17179	S24	E32	192	700	3.0	21793	S26	E32	193	(AP)	4	B	80	1	HSX
80	10	6	17179	S23	E20	190	400	3.0	21793	S25	E19	193	(AP)	4	B	80	1	HSX
80	10	7	17179						21793	S26	E06	193	(AP)	3	H	50	1	HSX
80	10	8	17179	S28	W11	194	400	3.0	21793	S26	W06	192	(AP)	4	B	50	2	CSO
80	10	9	17179	S24	W24	194	800	3.0	21793	S27	W18	191	(AP)	4	H	50	1	HSX
80	10	10	17179	S25	W36	195	500	2.0	21793	S27	W31	190	(AP)	3	B	40	1	HSX
80	10	11	17179	S25	W46	193	500	3.0	21793	S27	W45	191	(AP)	4	H	20	1	HSX
80	10	12	17179	S24	W53	187	500	2.0	21793	S27	W57	190	(AP)	3	H	10	1	HAX
80	10	13	17179	S26	W70	190	200	2.0	21793	S27	W70	189	(AP)	2	L	60	1	HAX

HALE REGION 17185 CMP DATE 8.2

			CALCIUM PLAGE DATA						SUNSPOT DATA								
YR	MO	DA	HL NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	10	5	17185	S07	E37	187	300	3.0	21803	S09	E38	187	(B)	3	B	40	6	DSO
80	10	6	17185	S08	E23	187	200	3.5	21803	S08	E20	192	(BY)	3	B	10	2	BXO
80	10	7	17185						21803	S08	E05	194	(AP)	3	H	30	2	CSO
80	10	8	17185	S10	W08	191	300	3.5	21803	S09	W07	193	(BP)	4	B	20	9	BXO
80	10	9	17185	S08	W21	191	1300	3.5	21803	S09	W18	191	(B)	4	H	60	8	DAO
80	10	10	17185	S08	W33	192	1600	3.5	21803	S09	W33	192	(B)	3	B	150	10	DAI
80	10	11	17185	S08	W46	193	1500	3.0	21803	S08	W47	193	(B)	4	H	110	16	DAI
80	10	12	17185	S07	W61	195	1900	3.0	21803	S08	W61	194	(B)	3	H	120	12	DAO
80	10	13	17185	S07	W75	195	0		21803	S07	W74	193	(B)	3	H	60	5	DAO
80	10	14	17185	S09	W88	195	800	1.5										

HALE REGION 17200 CMP DATE 8.4

			CALCIUM PLAGE DATA						SUNSPOT DATA								
YR	MO	DA	HL NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	10	11	17200	N02	W42	189	100	2.5		N07	W34				H	50	11	CAO
80	10	12	17200	N03	W55	189	100	2.5		N06	W47				H	50	7	CSO

HALE REGION 17193 CMP DATE 8.7

			CALCIUM PLAGE DATA						SUNSPOT DATA								
YR	MO	DA	HL NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	10	8	17193	S18	W02	185	100	3.0		S18	W04				M	10	3	BXO
80	10	9	17193	S17	W16	154	800	3.0	21816	S18	W13	186	(B)	3	H	30	8	CRO
80	10	10	17193	S17	W27	186	800	3.5	21816	S18	W26	185	(B)	4	B	60	12	DAO
80	10	11	17193	S17	W40	187	700	3.0	21816	S17	W41	187	(B)	4	H	70	10	CAO
80	10	12	17193	S17	W55	189	900	2.0	21816	S17	W56	189	(BP)	3	H	60	1	HAX
80	10	13	17193	S17	W68	188	800	2.0	21816	S16	W71	190	(AP)	3	H	60	1	HSX
80	10	14	17193	S18	W81	188	300	2.0										

HALE REGION 17180 CMP DATE 8.8 FRONT PART OF 17113 ROTATION 2

			CALCIUM PLAGE DATA						SUNSPOT DATA								
YR	MO	DA	HL NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	10	3	17180	N13	E75	176	400	3.0										
80	10	4	17180	N13	E55	182	100	3.0										
80	10	5	17180	N14	E44	180	300	3.0										
80	10	6	17180	N13	E27	183	200	3.0	21808	N12	E30	182	(AP)	3	B		1	AXX
80	10	8	17180	N09	W01	184	200	3.0										
80	10	9	17180	N09	W13	183	400	3.5		N07	W03				H	10	3	BXO
80	10	10	17180	N09	W24	183	400	2.0		N05	W22				P	40	5	ESO

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HALE REGION 17180 (CONT) CMP DATE 8.8 FRONT PART OF 17113 ROTATION 2

			CALCIUM PLAGE DATA						SUNSPOT DATA								
YR	MO	DA	HL NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	10	11	17180	N12	W38	185	500	2.5		N07	W34				H	50	11	CAO
80	10	12	17180	N12	W49	183	300	1.5		N07	W47				B	10	6	BXO
80	10	13	17180	N13	W64	184	200	2.0										

HALE REGION 17186 CMP DATE 8.9

			CALCIUM PLAGE DATA						SUNSPOT DATA								
YR	MO	DA	HL NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	10	6	17186	N24	E27	183	100	3.0		N24	E29				B		1	AXX
80	10	8	17186	N22	E01	182	100	3.0	21812	N25	E05	181	(AP)	2	P	10	2	AXX
80	10	9	17186	N24	W13	183	200	2.5		N19	W11				R	30	5	CRO

HALE REGION 17184 CMP DATE 9.5

			CALCIUM PLAGE DATA						SUNSPOT DATA								
YR	MO	DA	HL NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	10	4	17184	N16	E64	173	100	3.5	21799	N15	E67	172	(AP)	2				
80	10	5	17184	N17	E55	169	200	3.0										
80	10	6	17184	N16	E38	172	200	3.0										
80	10	8	17184	N14	E11	172	100	3.5		N10	E02				P	10	2	BXO
80	10	9	17184	N07	W05	175	200	2.5		N07	W03				H	10	3	BXO

HALE REGION 17183 CMP DATE 9.8

			CALCIUM PLAGE DATA						SUNSPOT DATA								
YR	MO	DA	HL NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	10	4	17183	S15	E65	172	100	3.0	21800	S14	E68	171	(B)	2	H	10	2	BXO
80	10	5	17183	S14	E55	169	300	3.5	21800	S14	E54	171	(AP)	2	B	10	1	AXX
80	10	6	17183	S14	E40	170	900	3.5	21800	S15	E42	170	AP	1	B		1	AXX
80	10	8	17183	S17	E15	168	500	3.5		S12	E19				B		1	AXX
80	10	9	17183	S14	W01	171	600	3.5		S11	W01				P	10	3	BXO
80	10	10	17183	S14	W10	169	400	2.0		S09	W09				B		1	AXX
80	10	11	17183	S14	W25	172	500	2.5		S12	W15				B	30	1	HSX
80	10	12	17183	S14	W37	171	300	1.0		S13	W29				H		2	BXO

HALE REGION 17189 CMP DATE 10.4

			CALCIUM PLAGE DATA						SUNSPOT DATA								
YR	MO	DA	HL NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	10	6	17189	S24	E48	162	200	3.5	21809	S23	E50	162	(B)	3	B	10	3	BXO
80	10	7	17189						21809	S23	E35	164	(AP)	3	H	40	5	CSO
80	10	8	17189	S26	E23	160	200	3.0	21809	S24	E21	165	(BP)	2	B	10	2	AXX
80	10	9	17189	S23	E06	164	700	3.5	21809	S24	E10	163	(B)	3	H	20	3	CRO
80	10	10	17189	S23	W04	163	700	3.0	21809	S24	W03	162	(B)	2	B	10	3	BXO
80	10	11	17189	S25	W15	162	600	3.0	21809	S24	W16	162	(B)	2	P	20	1	HRX
80	10	12	17189	S24	W27	161	400	2.5	21809	S25	W27	160	(B)	3	H	20	2	CSO
80	10	13	17189	S24	W43	163	0		21809	S25	W40	159	(B)	3	H	20	4	BXO
80	10	14	17189	S24	W55	162	700	2.5		S25	W52				H	60	6	DAO
80	10	15	17189	S24	W70	163	1100	2.5	21809	S25	W66	159	BP	3	B	60	2	CSO
80	10	16	17189							S25	W76				L	40	4	CSO

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HALE REGION 17181 — CMP DATE 10.5 — NEW, IN LOCATION OF 17116 — ROTATION 1

			CALCIUM PLAGE DATA						SUNSPOT DATA								
YR	MO	DA	HL NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	10	4	17181	N14	E78	159	400	3.5		N15	E85				P	130	2	DAO
80	10	5	17181	N14	E72	152	2000	3.5		N13	E75				B	330	5	DKI
80	10	6	17181	N12	E56	154	1900	4.0		N11	E57				B	20	11	BXO
80	10	7	17181						21810	N12	E38	161	(AP)	3	H	80	9	CAO
80	10	8	17181	N10	E25	158	2100	4.0	21810	N12	E27	159	(B)	4	B	130	28	DAI
80	10	9	17181	N12	E11	159	4500	3.5	21810	N12	E13	160	(B)	4	H	200	44	EAI
80	10	10	17181	N12	W02	161	4000	4.0	21810	N12	W01	160	(BY)	4	B	260	30	EAI
80	10	11	17181	N11	W16	163	4400	3.5	21810	N11	W15	161	(BY)	4	H	360	36	FAI
80	10	12	17181	N12	W27	161	4800	4.0	21810	N12	W29	162	(D)	4	H	610	44	EKI
80	10	13	17181	N13	W41	161	0		21810	N12	W42	161	(BY)	5	H	990	40	FKI
80	10	14	17181	N13	W55	162	4700	4.0		N12	W55				H	1070	38	EKI
80	10	15	17181	N13	W70	163	4800	4.0	21810	N12	W70	163	(B)	4	B	940	10	FHO
80	10	16	17181							N12	W81				H	430	9	EKI

HALE REGION 17182 — CMP DATE 10.8 — FRONT HALF IS 17115, REAR IS LEADING EDGE OF 17130 — ROT 2

			CALCIUM PLAGE DATA						SUNSPOT DATA								
YR	MO	DA	HL NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	10	4	17182	S08	E75	162	200	2.5		S13	E67				B	10	3	BXO
80	10	5	17182	S08	E68	156	300	3.0										
80	10	6	17182	S12	E52	158	400	3.0										
80	10	8	17182	S12	E23	160	900	3.0	21813	S13	E18	168	(B)	2	B		1	AXX
80	10	9	17182	S10	E12	158	1700	3.5	21813	S13	E04	169	(AP)	2	H	10	2	AXX
80	10	10	17182	S12	E01	158	1400	2.5	21813	S12	W08	167	(AP)	2	B		1	AXX
80	10	11	17182	S13	W15	162	1300	3.0	21813	S13	W14	160	(B)	3	H		1	AXX
80	10	12	17182	S13	W27	161	900	2.0	21813	S13	W28	161	(B)	2	H		2	BXO
80	10	13	17182	S11	W45	165	0											
80	10	14	17182	S10	W58	165	300	2.0										
80	10	15	17182	S11	W72	165	200	1.5										

HALE REGION 17187 — CMP DATE 11.8 — RETURN OF REGION 17117 — ROTATIONS 3 AND 4

			CALCIUM PLAGE DATA						SUNSPOT DATA								
YR	MO	DA	HL NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	10	4	17187						21801	N14	E88	151	(X)	2	P	130	2	DAO
80	10	5	17187						21801	N14	E77	148	(AP)	3	B	330	5	DKI
80	10	6	17187	N15	E65	145	3200	4.0	21801	N14	E65	147	(BY)	4	B	900	47	EKC
80	10	7	17187						21801	N14	E53	146	(B)	4	H	760	28	EKI
80	10	8	17187	N13	E38	145	3600	3.5	21801	N19	E40	146	(D)	5	R	910	31	EKI
80	10	9	17187	N16	E26	144	6200	3.5	21801	N14	E27	146	(BY)	5	H	740	33	EKI
80	10	10	17187	N15	E16	143	6700	3.5	21801	N14	E14	145	(BY)	5	B	520	25	EKI
80	10	11	17187	N15	E02	145	4300	3.5	21801	N13	E01	145	(BY)	4	B	500	30	EKI
80	10	12	17187	N15	W11	145	5800	3.5	21801	N13	W12	145	(BY)	5	H	350	27	EKI
80	10	13	17187	N16	W23	143	0		21801	N13	W26	145	(B)	5	H	350	31	EHI
80	10	14	17187	N16	W36	143	5500	4.0		N13	W36				H	270	26	EAI
80	10	15	17187	N16	W50	143	5000	3.5	21801	N14	W52	145	(BP)	4	B	150	6	CKO
80	10	16	17187							N15	W65				H	140	6	CSO
80	10	17	17187	N16	W74	140	2000	3.0	21801	N13	W70	137	AP	2	B	140	2	CHO
80	10	18	17187	N16	W87	142	1000	1.5										

HALE REGION 17190 — CMP DATE 11.8 — NEW, REAR PORTION IN LOCATION OF LEADER 17132 — ROTATION 1

			CALCIUM PLAGE DATA						SUNSPOT DATA								
YR	MO	DA	HL NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	10	5	17190						21804	S29	E79	146	(X)	2	B	20	4	BXO
80	10	6	17190	S29	E68	142	500	3.5	21804	S29	E65	147	(AP)	2	B	110	1	HSX
80	10	7	17190						21804	S30	E51	148	(AP)	4	H	130	1	HSX
80	10	8	17190	S31	E41	142	400	3.0	21804	S30	E39	147	(BP)	4	B	90	2	HAX
80	10	9	17190	S27	E25	145	1200	3.5	21804	S31	E26	147	(AP)	4	H	60	1	HSX
80	10	10	17190	S28	E15	144	1200	2.5	21804	S31	E14	145	(AP)	3	B	60	2	HSX
80	10	11	17190	S27	E03	144	1100	3.0	21804	S31	E01	145	(AP)	4	H	30	1	HSX
80	10	12	17190	S27	W12	146	800	2.5	21804	S30	W12	145	(AP)	4	H	20	2	CSO

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HALE REGION 17190 (CONT) CMP DATE 11.8 NEW, REAR PORTION IN LOCATION OF LEADER 17132 ROTATION 1

				CALCIUM PLAGE DATA					SUNSPOT DATA								
YR	MO	DA	HL NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	10	13	17190	S27 W25	145	0		21804	S30 W25	144	(AP)	4	H	30	1	HAX
80	10	14	17190	S27 W38	145	500	2.0		S29 W37				H	20	1	HAX
80	10	15	17190	S29 W52	145	700	2.0	21804	S30 W50	143	AP	3	B		1	AXX
80	10	16	17190						S31 W64				P	30	1	AXX
80	10	17	17190					21804	S31 W76	143	AP	1	L		1	AXX

HALE REGION 17194 CMP DATE 11.8

				CALCIUM PLAGE DATA					SUNSPOT DATA								
YR	MO	DA	HL NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	10	8	17194	S12 E42	141	100	3.5	21814	S08 E42	144	(AP)	2	B		1	AXX
80	10	9	17194	S10 E26	144	300	3.0	21818	S11 E37	136	(AP)	2	B		1	AXX
80	10	10	17194	S12 E16	143	300	2.0	21821	S06 E23	136	(AP)	2	M		2	BXO
80	10	11	17194	S13 E02	145	100	2.5	21818	S14 E14	132	(AP)	3	P	160	24	DAC
80	10	12	17194	S12 W10	144	200	3.0	21818	S12 W01	134	AP	1				
80	10	13	17194	S11 W24	144	0		21818	S09 W16	135	(AP)	3	B		1	AXX
80	10	15	17194					21818	S08 W42	135	AP	2	B	10	3	BXO
80	10	17	17194					21818	S07 W71	138	(AP)	3	H		1	AXX

HALE REGION 17188 CMP DATE 13.3 RETURN OF REGIONS 17120 AND 17127 ROTATION 2

				CALCIUM PLAGE DATA					SUNSPOT DATA								
YR	MO	DA	HL NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	10	6	17188	S11 E78	132	300	3.0									
80	10	7	17188					21811	S10 E77	122	(X)	2	H	380	11	EKI
80	10	8	17188	S12 E62	121	3900	3.5	21811	S10 E66	120	(Y)	3	B	650	18	DKO
80	10	9	17188	S10 E46	124	7300	3.5	21811	S10 E54	119	(D)	4	H	900	36	EKI
80	10	10	17188	S10 E35	124	7500	3.5	21811	S10 E40	119	(D)	4	B	360	25	EAI
80	10	11	17188	S10 E24	123	8000	3.5	21811	S10 E26	120	(D)	4	H	280	39	EKI
80	10	12	17188	S10 E09	125	7500	4.0	21811	S10 E13	120	(D)	4	H	680	61	EKC
80	10	12	17188	S10 E09	125	7500	4.0	21824	S15 E27	106	X	1	B		1	AXX
80	10	13	17188	S10 W04	124	7900	4.0	21811	S10 W00	119	(D)	5	H	760	63	EKC
80	10	14	17188	S11 W17	124	7800	4.0		S10 W15				H	660	66	EKI
80	10	15	17188	S12 W31	124	7600	4.0	21811	S10 W27	120	D	4	B	670	35	DHO
80	10	16	17188						S10 W41				H	640	42	EKI
80	10	17	17188	S12 W55	121	7700	4.0	21811	S10 W53	120	(D)	4	H	400	37	DKI
80	10	18	17188	S12 W67	122	7000	3.5	21811	S10 W69	122	(B)	3	H	70	17	DSO
80	10	19	17188	S13 W80	121	3500	3.0	21811	S11 W78	119	B	2	B	20	7	BXO

HALE REGION 17195 CMP DATE 13.6 REAR HALF OF 17132 ROTATION 6

				CALCIUM PLAGE DATA					SUNSPOT DATA								
YR	MO	DA	HL NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	10	8	17195	S22 E58	125	200	2.0									
80	10	9	17195	S24 E46	124	400	3.0									
80	10	10	17195	S24 E37	122	400	2.0									
80	10	11	17195	S31 E29	118	800	2.5									
80	10	12	17195	S27 E10	124	500	1.5									
80	10	13	17195	S29 W01	121	700	1.0									
80	10	14	17195	S29 W14	121	700	1.0									
80	10	15	17195	S30 W28	121	400	1.0									
80	10	17	17195	S30 W45	111	300	1.0									

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HALE REGION 17191 CMP DATE 13.8 FRONT HALF OF 17121 ROTATION 3

			CALCIUM PLAGE DATA						SUNSPOT DATA								
YR	MO	DA	HL NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	10	8	17191	N18	E62	121	200	2.5										
80	10	9	17191	N20	E50	120	1600	3.0										
80	10	10	17191	N20	E39	120	1400	3.0										
80	10	11	17191	N19	E28	119	1100	3.0										
80	10	12	17191	N19	E15	119	800	2.0	21823	N20	E12	121	(AP)	2	H	20	4	CAO
80	10	13	17191	N18	E02	118	1000	2.5		N21	E07				L		3	AXX
80	10	14	17191	N18	W11	118	1200	2.5										
80	10	15	17191	N18	W25	118	1300	3.0										
80	10	17	17191	N18	W52	118	1400	2.5										
80	10	18	17191	N18	W64	119	1100	2.0										
80	10	19	17191	N18	W75	116	600	2.0		N18	W80				B	10	2	BXO

HALE REGION 17199 CMP DATE 15.1

			CALCIUM PLAGE DATA						SUNSPOT DATA								
YR	MO	DA	HL NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	10	9	17199						21819	S22	E70	103	(AP)	2	H	60	1	HSX
80	10	10	17199	S22	E58	101	400	3.0	21819	S21	E57	102	(AP)	3	B	50	1	HSX
80	10	11	17199	S22	E46	101	300	2.5	21819	S21	E44	102	(AP)	3	H	40	1	HSX
80	10	12	17199	S21	E53	81	300	1.5	21819	S21	E31	102	(AP)	4	H	20	1	HAX
80	10	13	17199	S23	E20	100	400	1.5	21819	S21	E17	102	(AP)	4	H	20	1	HSX
80	10	14	17199	S22	E06	101	400	1.5		S21	E05				H	30	1	HSX
80	10	15	17199	S22	W08	101	400	1.5	21819	S20	W09	102	AP	3	B		1	AXX
80	10	17	17199	S22	W34	100	400	1.5		S21	W27				L		1	AXX
80	10	18	17199	S22	W45	100	200	1.0										
80	10	19	17199	S22	W58	99	300	1.5										

HALE REGION 17196 CMP DATE 15.5 NORTHERN HALF OF 17121 ROTATION 3

			CALCIUM PLAGE DATA						SUNSPOT DATA								
YR	MO	DA	HL NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	10	9	17196	N29	E68	102	100	3.0										
80	10	10	17196	N29	E64	95	200	1.5										
80	10	11	17196	N29	E47	100	100	2.0										
80	10	12	17196	N26	E35	99	400	3.0										
80	10	13	17196	N26	E24	96	700	2.5										
80	10	14	17196	N25	E11	96	700	2.5										
80	10	15	17196	N26	W03	96	800	2.5		N25	W09				P	10	2	AXX
80	10	17	17196	N25	W29	95	1000	2.5										
80	10	18	17196	N25	W40	95	800	2.0										
80	10	19	17196	N25	W53	94	800	2.0										

HALE REGION 17197 CMP DATE 15.5 SOUTHERN HALF OF 17121 ROTATION 3

			CALCIUM PLAGE DATA						SUNSPOT DATA								
YR	MO	DA	HL NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	10	9	17197	N20	E72	98	1700	3.0	21820	N16	E74	99	(AP)	3	H	20	1	AXX
80	10	10	17197	N19	E65	94	2500	3.0	21820	N17	E66	93	(BP)	3	B	40	3	CAO
80	10	11	17197	N19	E51	96	2600	3.5	21820	N17	E53	93	(AP)	3	H	20	4	CSO
80	10	12	17197	N18	E39	95	1900	3.0	21820	N17	E44	89	(AP)	3	H	20	2	HSX
80	10	13	17197	N18	E27	93	1500	3.0	21820	N17	E31	88	(AP)	2	P		1	AXX
80	10	14	17197	N17	E14	93	1500	3.0		N15	E15				H	50	9	CAO
80	10	15	17197	N17	W02	95	1700	3.5	21820	N15	W02	95	(BP)	4	B	40	7	CSO
80	10	17	17197	N17	W27	93	1500	3.5	21820	N15	W30	97	(AP)	2	H		2	BXO
80	10	18	17197	N17	W39	94	1200	3.0	21820	N15	W42	95	(B)	2	H	10	4	BXO
80	10	19	17197	N16	W52	93	1200	2.5		N16	W55				B	20	3	BXO
80	10	21	17197	N17	W78	93	1500	1.5										

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HALE REGION 17203 CMP DATE 15.8

CALCIUM PLAGE DATA									SUNSPOT DATA								
YR	MO	DA	HL NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	10	12	17203	N03	E43	91	100	1.0	21825	N04	E45	88	X	1				
80	10	13	17203	N04	E30	90	400	3.0	21825	N05	E30	89	(B)	2	H	10	4	BXO
80	10	14	17203	N04	E16	91	600	3.0		N05	E15				H	40	7	CAO
80	10	15	17203	N04	E02	91	700	3.0	21825	N06	W01	94	AP	3	B	10	5	BXO
80	10	16	17203							N07	W13				H	10	5	BXO
80	10	17	17203	N05	W26	92	500	3.0	21825	N06	W24	91	(AP)	2	H	10	3	BXO
80	10	18	17203	N06	W37	92	600	2.5	21825	N06	W38	91	(AP)	1	B	10	1	AXX
80	10	19	17203	N07	W50	91	700	2.5										
80	10	21	17203	N07	W77	92	700	1.5										

HALE REGION 17198 CMP DATE 16.4 NEW, IN LOCATION OF 17113 ROTATION 1

CALCIUM PLAGE DATA									SUNSPOT DATA								
YR	MO	DA	HL NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	10	9	17198						21817	N08	W04	177	(AF)	3	H	10	3	BXO
80	10	10	17198	N05	W20	179	200	3.5		N05	W22				P	40	5	ESO
80	10	11	17198	N05	W35	182	400	3.0	21817	N05	W35	181	(B)	3	H	50	11	CAO
80	10	12	17198	N07	W47	181	800	3.0	21817	N05	W48	181	(B)	3	H	50	7	CSO
80	10	13	17198	N07	W63	183	1000	2.5	21817	N06	W62	181	(B)	3	H	70	8	CAO
80	10	14	17198	N08	W77	184	1000	2.0										

HALE REGION 17202 CMP DATE 17.2

CALCIUM PLAGE DATA									SUNSPOT DATA								
YR	MO	DA	HL NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	10	11	17202	S29	E69	78	700	3.0	21822	S29	E70	76	(B)	3	H	10	2	BXO
80	10	12	17202	S30	E53	81	300	2.0	21822	S29	E56	77	(B)	3	H		2	BXO
80	10	13	17202	S31	E42	78	500	2.5	21822	S29	E42	77	(BY)	3	H	30	5	BXO
80	10	14	17202	S30	E30	77	700	3.0		S30	E30				H	30	4	CAO
80	10	15	17202	S29	E17	76	1000	3.5	21822	S28	E18	75	BY	3	B	50	10	CAI
80	10	16	17202							S28	E05				H	70	8	DRO
80	10	17	17202	S29	W07	73	1500	3.0	21822	S28	W07	74	(B)	3	H	40	6	DAO
80	10	18	17202	S30	W18	73	1300	3.0		S28	W21				H	10	1	AXX
80	10	19	17202	S30	W31	72	1300	3.0		S30	W32				H		1	AXX
80	10	20	17202						21836	S29	W46	73	(B)	3	B	10	2	BXO
80	10	21	17202	S30	W56	71	1300	2.5										
80	10	22	17202	S30	W79	81	600	2.0										

HALE REGION 17213 CMP DATE 17.6

CALCIUM PLAGE DATA									SUNSPOT DATA								
YR	MO	DA	HL NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	10	16	17213	N03	E13	68	100	1.0		N08	E22				H	170	9	DSO
80	10	18	17213	N03	W13	68	100	1.0		N08	W08				H	70	6	CAO
80	10	19	17213	N03	W27	68	100	1.0		N08	W22				H	50	3	CSO

HALE REGION 17201 CMP DATE 18.2

CALCIUM PLAGE DATA									SUNSPOT DATA								
YR	MO	DA	HL NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	10	11	17201	N07	E80	67	200	2.5										
80	10	12	17201	N06	E75	59	1500	3.0	21826	N07	E77	56	(B)	3	H	80	3	CAO
80	10	13	17201	N07	E64	56	2000	3.5	21826	N07	E62	57	(BP)	4	H	110	6	DSO
80	10	14	17201	N07	E50	57	2000	3.5		N06	E46				H	70	3	CAO
80	10	15	17201	N07	E35	58	1800	3.5	21826	N06	E32	61	BP	4	B	100	3	CSO
80	10	16	17201							N08	E22				H	170	9	DSO
80	10	17	17201	N07	E07	59	1500	3.5	21826	N07	E07	60	(BP)	4	H	100	11	DSO
80	10	18	17201	N07	W05	60	1300	3.5	21826	N07	W08	61	(AP)	4	H	70	6	CAO

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HALE REGION 17201 (CONT) CMP DATE 18.2

			CALCIUM PLAGE DATA						SUNSPOT DATA								
YR	MO	DA	HL NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	10	19	17201	N08	W17	58	1300	3.5	21826	N07	W21	62	(AP)	4	H	50	3	CSO
80	10	20	17201						21826	N06	W35	62	(AP)	4	B	80	4	CSO
80	10	21	17201	N08	W44	59	1400	3.0	21826	N07	W47	61	(BP)	3	B	40	3	CAO
80	10	22	17201	N08	W57	59	1400	2.5	21826	N07	W61	62	(AP)	3	R	70	3	CRO
80	10	23	17201	N08	W71	59	1200	2.0										
80	10	24	17201	N08	W84	59	500	2.0										

HALE REGION 17204 CMP DATE 18.9 RETURN OF REGION 17145 ROTATION 82

			CALCIUM PLAGE DATA						SUNSPOT DATA								
YR	MO	DA	HL NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	10	12	17204	N16	E80	54	1500	2.5		N14	E80				L	60	1	HSX
80	10	13	17204	N15	E70	50	3000	3.0	21827	N17	E70	49	(AP)	2				
80	10	14	17204	N14	E57	50	2700	3.0		N19	E61				H		1	AXX
80	10	15	17204	N15	E44	49	3000	3.5	21827	N19	E48	45	AP	2	P	10	2	AXX
80	10	16	17204							N10	E22				R	90	17	CSO
80	10	17	17204	N15	E18	48	2700	3.5	21829	N17	E16	51	(AP)	3	H		1	AXX
80	10	18	17204	N15	E05	50	2500	3.0	21829	N17	E01	52	(AP)	2	H	10	7	BXO
80	10	19	17204	N16	W09	50	2500	3.0		N15	W13				H	10	5	BXO
80	10	20	17204						21837	N15	W28	55	(AP)	2	B	10	1	AXX
80	10	21	17204	N16	W37	52	2300	3.0										
80	10	22	17204	N16	W50	52	2300	2.0										
80	10	23	17204	N17	W65	53	1700	2.5										
80	10	24	17204	N17	W78	53	1600	2.5										

HALE REGION 17210 CMP DATE 18.9 NEW, IN LOCATION OF 17148 ROTATION 1

			CALCIUM PLAGE DATA						SUNSPOT DATA								
YR	MO	DA	HL NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	10	17	17210	S19	E15	51	300	2.0										
80	10	18	17210	S20	E04	51	100	1.0										
80	10	19	17210	S20	W10	51	100	1.5										

HALE REGION 17224 CMP DATE 19.0

			CALCIUM PLAGE DATA						SUNSPOT DATA								
YR	MO	DA	HL NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	10	22	17224	S07	W47	49	400	3.0	21846	S07	W49	50	(B)	4	H	60	7	DSO
80	10	23	17224	S07	W62	50	800	3.5	21846	S07	W64	52	(B)	4	H	220	6	DSO
80	10	24	17224	S07	W75	50	1000	3.0	21846	S07	W74	48	(BF)	4	H	100	1	HKX

HALE REGION 17205 CMP DATE 19.6

			CALCIUM PLAGE DATA						SUNSPOT DATA								
YR	MO	DA	HL NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	10	13	17205	N23	E78	42	1200	3.0										
80	10	14	17205	N23	E65	42	1500	3.0		N19	E61				H		1	AXX
80	10	15	17205	N24	E51	42	1400	3.0		N23	E47				P	10	2	AXX
80	10	17	17205	N26	E25	41	1300	2.5		N25	E35				P	40	6	DSO
80	10	18	17205	N26	E14	41	1300	3.0	21833	N21	E11	42	(BP)	2	H	10	7	BXO
80	10	19	17205	N26	W00	41	1300	3.0	21833	N22	E03	38	(AF)	2	H	10	1	HSX
80	10	21	17205	N24	W27	42	1500	2.5	21845	N24	W24	38	(AF)	2	R	130	30	DAO
80	10	22	17205	N24	W40	42	1500	2.5										
80	10	23	17205	N24	W54	42	1500	2.5										
80	10	24	17205	N24	W67	42	1500	2.5										

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HALE REGION 17206 CMP DATE 19.7 RETURN OF REGION 17142 ROTATION 92

CALCIUM PLAGE DATA									SUNSPOT DATA								
YR	MO	DA	HL NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	10	13	17206	S36	E80	40	800	2.0	21828	S34	E80	39	X	2	H	70	1	HSX
80	10	14	17206	S36	E65	42	1700	2.0		S35	E63				H	110	1	HSX
80	10	15	17206	S35	E55	38	1500	2.5	21828	S34	E49	44	AP	3	B	110	1	HAX
80	10	17	17206	S33	E28	38	0		21831	S32	E40	27	(AF)	2	B		1	AXX
80	10	17	17206	S33	E28	38	0		21828	S34	E24	43	(AP)	4	H	100	3	CSO
80	10	18	17206	S33	E15	40	2000	2.5	21834	S32	E18	35	(B)	2	H	120	9	ESO
80	10	18	17206	S33	E15	40	2000	2.5	21828	S34	E15	38	(BP)	4	H	120	9	ESO
80	10	19	17206	S34	E02	39	2000	2.5	21834	S34	E07	34	(B)	3	R	210	4	DSO
80	10	19	17206	S34	E02	39	2000	2.5	21828	S34	W00	41	(BP)	3	H	100	6	DSO
80	10	20	17206						21834	S34	W06	33	(B)	3	B	110	6	CSO
80	10	20	17206						21828	S35	W15	42	(BY)	4	B	110	6	CSO
80	10	21	17206	S34	W23	38	2000	2.5	21834	S34	W16	30	(AF)	3	R	130	5	DSO
80	10	21	17206	S34	W23	38	2000	2.5	21828	S35	W28	42	(AP)	4	B	60	4	CSO
80	10	22	17206	S34	W36	38	1800	2.0	21828	S34	W42	43	(AP)	4	H	60	1	HSX
80	10	23	17206	S34	W50	38	1500	2.0	21828	S34	W55	43	(AP)	4	H	40	1	HAX
80	10	24	17206	S34	W63	38	1700	2.0	21828	S34	W66	40	(AP)	3	H	20	1	HSX
80	10	25	17206						21828	S34	W79	40	AP	2	M	20	1	HSX

HALE REGION 17207 CMP DATE 20.2 NEW, IN LOCATION OF 17148 ROTATION 1

CALCIUM PLAGE DATA									SUNSPOT DATA								
YR	MO	DA	HL NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	10	14	17207	S23	E70	37	300	2.5		S21	E68				P	10	2	AXX
80	10	15	17207	S23	E58	35	400	2.5										
80	10	17	17207	S20	E32	34	0											
80	10	18	17207	S20	E20	35	500	2.5		S19	E25				L		1	AXX
80	10	19	17207	S20	E08	33	400	2.0										
80	10	21	17207	S20	W18	33	500	2.0										
80	10	22	17207	S22	W32	34	400	2.0										
80	10	23	17207	S22	W45	33	200	2.0										
80	10	24	17207	S22	W58	33	200	1.5										

HALE REGION 17208 CMP DATE 20.2 NEW, IN LOCATION OF SOUTHERN HALF OF 17151 ROTATION 1

CALCIUM PLAGE DATA									SUNSPOT DATA								
YR	MO	DA	HL NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	10	15	17208	N13	E70	23	700	3.5										
80	10	17	17208	N15	E37	29	500	3.5	21830	N16	E39	28	(B)	2	P	40	6	DSO
80	10	18	17208	N16	E25	30	400	2.0	21830	N15	E24	29	(B)	2	H	30	3	CSO
80	10	19	17208	N16	E12	29	600	2.0	21830	N13	E07	34	(AP)	2	H	20	1	HSX
80	10	20	17208						21830	N13	W06	33	(AP)	3	B	10	1	AXX
80	10	21	17208	N13	W18	33	200	2.5	21830	N13	W20	34	(AP)	3	B		1	AXX
80	10	22	17208	N13	W32	34	200	2.5		N18	W28				R	380	31	DAO
80	10	23	17208	N13	W46	34	200	2.0										
80	10	24	17208	N13	W59	34	100	2.5										

HALE REGION 17214 CMP DATE 20.4

CALCIUM PLAGE DATA									SUNSPOT DATA								
YR	MO	DA	HL NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	10	18	17214	N22	E25	30	300	3.0		N20	E24				H	10	2	AXX
80	10	19	17214	N21	E12	29	500	2.5	21835	N20	E11	30	(B)	3	H	20	7	BXO
80	10	20	17214						21835	N20	W01	28	(Y)	3	B	80	24	DRI
80	10	21	17214	N19	W15	30	2000	4.0	21835	N20	W15	29	(BY)	4	B	170	25	DAI
80	10	22	17214	N19	W28	30	2000	3.5	21835	N20	W28	29	(D)	4	H	350	24	DKI
80	10	23	17214	N20	W42	30	2700	4.0	21835	N18	W43	31	(D)	4	H	160	21	DKO
80	10	24	17214	N20	W55	30	2800	4.0	21835	N18	W54	28	(D)	4	H	210	13	DKO
80	10	25	17214						21835	N19	W67	28	(D)	4	B	230	7	EAI
80	10	26	17214	N23	W80	29	2700	3.5	21835	N19	W78	26	AF	2	H	90	6	CSO

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HALE REGION 17220 CMP DATE 20.7

				CALCIUM PLAGE DATA					SUNSPOT DATA								
YR	MO	DA	HL NO.	LAT CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	10	21	17220	S03 W12	27	100	1.0										
80	10	22	17220	S04 W25	27	100	1.0										

HALE REGION 17216 CMP DATE 21.2

				CALCIUM PLAGE DATA					SUNSPOT DATA								
YR	MO	DA	HL NO.	LAT CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	10	18	17216	S34 E30	25	400	2.0		S31	E30				H	20	4	BXO
80	10	19	17216	S34 E18	23	500	2.0										
80	10	21	17216	S36 W05	20	800	2.0										
80	10	22	17216	S36 W19	21	700	1.5										
80	10	23	17216	S36 W30	18	800	2.0										
80	10	24	17216	S36 W43	18	700	2.0										
80	10	26	17216	S34 W69	18	700	1.5										

HALE REGION 17209 CMP DATE 21.3 NEW, IN LOCATION OF 17161 ROTATION 1

				CALCIUM PLAGE DATA					SUNSPOT DATA								
YR	MO	DA	HL NO.	LAT CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	10	18	17209	N14 E37	18	800	2.5		N16	E31				L	30	6	DRO
80	10	19	17209	N14 E24	17	800	2.5										
80	10	21	17209	N13 W04	19	800	2.5	21844	N13	W07	21	(AP)	2	B		1	AXX
80	10	22	17209	N13 W17	19	900	2.5										
80	10	23	17209	N13 W30	18	800	2.0										
80	10	24	17209	N13 W43	18	800	2.0										
80	10	26	17209	N15 W70	19	700	1.5		N20	W80				H	90	6	CSO
80	10	27	17209	N10 W83	19	100	1.8										

HALE REGION 17217 CMP DATE 21.8

				CALCIUM PLAGE DATA					SUNSPOT DATA								
YR	MO	DA	HL NO.	LAT CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	10	18	17217	S19 E40	15	300	2.0										
80	10	19	17217	S20 E28	13	200	2.0										
80	10	20	17217					21838	S24	E18	9	(B)	2	B	10	1	AXX
80	10	21	17217	S22 E03	12	500	2.0										
80	10	22	17217	S22 W11	13	400	1.5										
80	10	23	17217	S23 W23	11	400	1.5										
80	10	24	17217	S23 W36	11	300	1.5										
80	10	26	17217	S19 W63	12	200	1.5										

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HALE REGION 17215 CMP DATE 22.1

CALCIUM PLAGE DATA									SUNSPOT DATA								
YR	MO	DA	HL NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	10	18	17215	N18	E48	7	500	2.5										
80	10	19	17215	N18	E35	6	500	2.0		N19	E37				B	20	4	BXO
80	10	21	17215	N18	E07	8	500	2.0										
80	10	22	17215	N18	W06	8	300	2.0										
80	10	23	17215	N18	W19	7	300	1.5										
80	10	24	17215	N18	W32	7	300	1.5										
80	10	26	17215	N19	W58	7	100	1.0										
80	10	27	17215	N18	W69	5	100	1.0										

HALE REGION 17212 CMP DATE 23.5

CALCIUM PLAGE DATA									SUNSPOT DATA								
YR	MO	DA	HL NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	10	16	17212							S19	E85				M	210	1	HAX
80	10	17	17212	S17	E76	350	2000	3.5	21832	S17	E76	351	B	3	H	480	9	DKI
80	10	18	17212	S17	E63	352	4000	4.0	21832	S16	E65	348	(D)	4	H	1450	37	FKI
80	10	19	17212	S17	E50	351	5300	3.5	21832	S15	E52	349	(D)	4	H	380	7	ESO
80	10	20	17212						21832	S18	E35	352	(D)	5	B	1800	55	FKC
80	10	21	17212	S17	E24	351	6700	4.0	21832	S18	E24	350	(D)	5	B	1250	54	EKI
80	10	22	17212	S17	E11	351	6400	4.0	21832	S18	E10	351	(B)	5	H	1260	59	EKI
80	10	23	17212	S17	W02	350	7000	4.0	21832	S18	W03	351	(B)	5	H	760	41	EKI
80	10	24	17212	S17	W15	350	7400	4.0	21832	S18	W15	349	(B)	5	H	750	29	EKI
80	10	25	17212						21832	S18	W28	349	(B)	5	B	1000	21	EKI
80	10	26	17212	S17	W40	349	6500	4.0	21832	S18	W42	350	(B)	5	H	640	35	EKI
80	10	27	17212	S17	W52	348	6200	3.5	21832	S18	W66	1	(BP)	4				
80	10	28	17212						21832	S18	W70	352	(AP)	4	B	340	5	EKO
80	10	29	17212	S17	W78	347	5800	3.0										

HALE REGION 17211 CMP DATE 24.2

CALCIUM PLAGE DATA									SUNSPOT DATA								
YR	MO	DA	HL NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	10	17	17211	S12	E80	346	1700	3.5		S12	E84				H	70	2	HKX
80	10	18	17211	S10	E69	346	3500	3.0		S15	E75				B	200	9	DAO
80	10	19	17211	S10	E57	344	3400	3.5		S15	E52				H	380	7	ESO
80	10	20	17211						21839	S13	E46	341	(BP)	5	B	470	17	DHI
80	10	21	17211	S13	E33	342	4000	3.5	21839	S13	E33	341	(BP)	5	B	360	19	DSO
80	10	22	17211	S12	E20	342	4000	3.5	21839	S13	E22	339	(BP)	5	H	360	24	DKI
80	10	23	17211	S13	E08	340	3700	3.5	21839	S13	E07	341	(BP)	4	H	180	22	DKO
80	10	24	17211	S13	W05	340	3500	3.5	21839	S13	W05	339	(BP)	5	H	200	15	DKO
80	10	25	17211						21839	S13	W18	339	(BP)	5	B	270	5	EHI
80	10	26	17211	S13	W30	339	3500	3.5	21839	S13	W33	341	(AP)	5	H	170	5	CHO
80	10	27	17211	S13	W43	339	3500	3.5	21839	S11	W46	341	(AP)	4	H	90	1	HAX
80	10	28	17211						21839	S12	W59	341	(AP)	3	B	90	1	HAX
80	10	29	17211	S13	W69	338	2400	3.0	21839	S12	W66	334	(AP)	4				
80	10	30	17211	S14	W80	335	2000	2.5		S13	W82				M	90	1	HSX

HALE REGION 17218 CMP DATE 24.2 RETURN OF REGION 17159 ROTATION 02

CALCIUM PLAGE DATA									SUNSPOT DATA								
YR	MO	DA	HL NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	10	19	17218	N18	E70	331	300	1.5		N17	E74				B	10	1	AXX
80	10	20	17218						21840	N15	E48	339	(AP)	3	B	30	1	HRX
80	10	21	17218	N17	E37	338	800	3.0	21840	N16	E35	339	(B)	3	B	30	4	CAO
80	10	22	17218	N17	E23	339	800	2.5	21840	N16	E20	341	(AP)	3	H	20	3	CRO
80	10	23	17218	N17	E08	340	800	2.5	21840	N16	E07	341	(BP)	3	H	30	6	HSX
80	10	24	17218	N17	W05	340	800	2.5	21840	N16	W04	338	(B)	2	H		2	BXO
80	10	25	17218						21840	N16	W16	337	AF	1	B	10	1	AXX
80	10	26	17218	N17	W30	339	700	3.0										
80	10	27	17218	N17	W43	339	400	3.0										
80	10	29	17218	N17	W68	337	100	1.5										

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HALE REGION 17221 CMP DATE 25.3

CALCIUM PLAGE DATA								SUNSPOT DATA								
YR	MO	DA	HL NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	10	21	17221	N19	E48	327	400	2.0		N16	E43				L	20	3	CSO
80	10	22	17221	N18	E35	327	300	2.0										
80	10	23	17221	N18	E21	327	500	2.0		N17	E16				H	20	4	CSO
80	10	24	17221	N18	E09	326	500	1.5		N17	E02				H	20	5	BXO
80	10	26	17221	N19	W17	326	400	1.0										
80	10	27	17221	N18	W30	326	300	1.0										

HALE REGION 17223 CMP DATE 25.8 17164, 17167 AND 17171 ROTATION 3

CALCIUM PLAGE DATA								SUNSPOT DATA								
YR	MO	DA	HL NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	10	20	17223						21843	S09	E67	320	(AP)	2	B	10	1	AXX
80	10	21	17223	S10	E60	315	2800	2.5	21843	S08	E54	320	AP	1	P		1	AXX
80	10	22	17223	S10	E47	315	3400	2.0	21843	S08	E41	320	(AP)	3	H	10	1	AXX
80	10	23	17223	S10	E34	314	3600	2.5		S08	E31				R	10	1	AXX
80	10	24	17223	S10	E20	315	3600	2.0										
80	10	25	17223						21850	S08	W08	321	(AP)	2	H	10	4	BXO
80	10	26	17223	S10	W10	319	3300	2.0	21850	S06	W12	320	AP	2	H	10	5	BXO
80	10	27	17223	S10	W23	319	3500	2.5										
80	10	29	17223	S10	W48	317	2800	2.0										
80	10	30	17223	S10	W59	314	1500	2.0										
80	10	31	17223	S10	W67	309	1000	1.0										

HALE REGION 17219 CMP DATE 25.9 17169 AND EXTREME NORTHERN TIP OF 17164 ROTATIONS 2 AND 3

CALCIUM PLAGE DATA								SUNSPOT DATA								
YR	MO	DA	HL NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	10	19	17219	N07	E80	321	1200	3.0										
80	10	20	17219						21841	N08	E65	322	(AF)	2	B	10	2	BXO
80	10	20	17219						21842	N05	E67	320	(AP)	2	B	10	2	BXO
80	10	21	17219	N07	E57	318	3000	2.5	21841	N06	E55	319	(B)	3	B	20	4	BXO
80	10	22	17219	N06	E44	318	3000	2.5	21841	N09	E42	319	(AF)	3	H	30	6	CHO
80	10	23	17219	N06	E32	316	3000	3.0		N09	E30				R	10	1	AXX
80	10	24	17219	N06	E19	316	2800	3.0	21847	N06	E12	322	(AP)	2	H	20	1	HAX
80	10	26	17219	N07	W09	318	2500	3.0										
80	10	27	17219	N07	W22	318	2300	2.5		N08	W26				P	20	4	AXX
80	10	29	17219	N07	W48	317	1700	2.5										
80	10	30	17219	N07	W62	317	1500	2.5		N06	W68				M	10	1	AXX
80	10	31	17219	N07	W75	317	1400	2.0										

HALE REGION 17222 CMP DATE 26.8 NEW, IN LOCATION OF 17168 ROTATION 1

CALCIUM PLAGE DATA								SUNSPOT DATA								
YR	MO	DA	HL NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	10	21	17222	N17	E67	308	600	2.5										
80	10	22	17222	N16	E54	308	900	2.0										
80	10	23	17222	N15	E41	307	600	2.0										
80	10	24	17222	N15	E29	306	600	2.5										
80	10	26	17222	N15	E03	306	600	2.5										
80	10	27	17222	N15	W10	306	600	2.0										
80	10	29	17222	N15	W37	306	300	2.5										
80	10	30	17222	N14	W51	306	400	2.5										
80	10	31	17222	N15	W65	307	400	2.0										

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HALE REGION 17227 CMP DATE 28.1 SOUTHERN PART OF 17171 ROTATION 3

				CALCIUM PLAGE DATA					SUNSPOT DATA								
YR	MO	DA	HL NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	10	23	17227	S23	E55	293	300	1.5										
80	10	24	17227	S23	E42	293	300	1.5										
80	10	26	17227	S23	E28	289	300	1.5										
80	10	27	17227	S24	E06	290	600	1.5										
80	10	29	17227	S23	W20	289	500	1.0										
80	10	30	17227	S23	W33	288	300	2.0		S18	W27				H	200	16	DHO
80	10	31	17227	S19	W45	287	300	2.5		S18	W40				H	240	10	DKO
80	11	1	17227	S21	W60	285	100	2.5		S17	W55				H	320	11	DHO

HALE REGION 17242 CMP DATE 28.7

				CALCIUM PLAGE DATA					SUNSPOT DATA								
YR	MO	DA	HL NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	10	31	17242	S03	W39	281	200	3.0		S04	W29				P	90	10	DSO
80	11	1	17242	S07	W57	282	100	3.0										

HALE REGION 17226 CMP DATE 28.8

				CALCIUM PLAGE DATA					SUNSPOT DATA								
YR	MO	DA	HL NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	10	23	17226	S14	E68	280	300	1.5										
80	10	24	17226	S14	E55	280	300	2.0										
80	10	25	17226						21851	S12	E41	280	(B)	3	B	10	2	BXO
80	10	26	17226	S14	E29	280	1000	3.0	21851	S12	E28	280	(B)	3	H	50	6	CAO
80	10	27	17226	S14	E15	281	1000	3.0	21851	S11	E15	280	(BY)	3	H	10	5	BXO
80	10	29	17226	S13	W11	280	1000	3.5		S11	W14				B	10	2	BXO
80	10	30	17226	S14	W26	281	1400	3.5	21859	S17	W28	283	(B)	5	H	200	16	DHO
80	10	31	17226	S14	W40	282	1200	3.0	21859	S18	W40	280	(B)	5	H	240	10	DKO
80	11	1	17226	S16	W57	282	1500	4.0	21859	S18	W52	281	(B)	5	H	320	11	DHO
80	11	2	17226	S17	W67	281	1200	4.0	21859	S17	W65	281	(B)	4	H	370	5	DKO
80	11	3	17226	S17	W82	282	500	3.5	21859	S17	W77	280	B	2	H	290	3	DAO

HALE REGION 17225 CMP DATE 29.8 17173 AND LEADING EDGE OF 17174 ROTATION 3 AND 2

				CALCIUM PLAGE DATA					SUNSPOT DATA								
YR	MO	DA	HL NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	10	23	17225	N18	E80	268	2500	3.0		N22	E85				P	30	1	AXX
80	10	24	17225	N18	E68	267	5200	3.5	21849	N22	E69	265	(AP)	3	H	20	1	HSX
80	10	24	17225	N18	E68	267	5200	3.5	21848	N17	E65	269	(B)	3	H	30	3	CSO
80	10	25	17225						21848	N17	E52	269	(B)	3	B	100	2	BSO
80	10	25	17225						21849	N22	E57	264	(BP)	4	B	80	1	HSX
80	10	26	17225	N18	E41	268	6500	3.5	21849	N23	E45	263	(B)	4	H	60	4	DSO
80	10	26	17225	N18	E41	268	6500	3.5	21848	N19	E37	271	(B)	4	H	40	9	CSO
80	10	27	17225	N19	E28	268	6200	3.5	21849	N22	E31	264	(BF)	4	H	90	6	DSO
80	10	27	17225	N19	E28	268	6200	3.5	21848	N19	E25	270	(BP)	3	H	50	10	DSO
80	10	28	17225						21849	N20	E12	270	(BY)	3	B	200	31	DAI
80	10	29	17225	N20	E03	266	5600	3.5	21849	N20	W01	269	(BY)	4	B	140	34	DAI
80	10	30	17225	N20	W12	267	5700	3.5	21849	N20	W14	269	(B)	5	H	50	9	DAO
80	10	31	17225	N20	W24	266	5900	3.5	21849	N20	W31	271	(BP)	4	H	30	6	CSO
80	11	1	17225	N20	W43	268	3900	3.5	21849	N18	W45	274	(AP)	3	H	20	3	AXX
80	11	2	17225	N19	W58	264	2900	3.5	21849	N18	W58	274	(AP)	2	H		1	AXX
80	11	3	17225	N18	W61	261	2000	3.0	21849	N17	W70	273	(AP)	3	H	10	1	AXX
80	11	4	17225	N18	W79	265	500	3.0		N14	W74				H	10	1	AXX

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HALE REGION 17232 CMP DATE 29.9

			CALCIUM PLAGE DATA					SUNSPOT DATA								
YR	MO	DA	HL NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	10	25	17232					21852	S04 E54	267	AF	1				
80	10	26	17232	S04 E43	266	700	4.0	21852	S04 E43	265	(BF)	3	H	90	12	DSO
80	10	27	17232	S04 E30	266	1100	3.0	21852	S04 E28	267	(BF)	3	H	80	15	DAO
80	10	28	17232					21852	S03 E13	269	(B)	3	B	140	15	DAI
80	10	29	17232	S04 E04	265	1100	3.0	21852	S04 E01	267	(BY)	4				
80	10	30	17232	S04 W11	266	1400	3.0	21852	S04 W12	267	(B)	4	H	70	19	DAO
80	10	31	17232	S04 W25	267	1700	3.0	21852	S04 W27	267	(B)	4	H	70	15	DAO
80	11	1	17232	S04 W43	268	1300	3.5	21852	S04 W39	268	(B)	4	H	90	9	DSO
80	11	2	17232	S05 W55	269	1000	3.5	21852	S05 W53	269	(B)	4	H	90	8	DAO
80	11	3	17232	S04 W68	268	1000	3.0	21852	S05 W69	272	(B)	3	H	10	1	AXX
80	11	4	17232	S06 W85	271	300	3.0									

HALE REGION 17228 CMP DATE 30.7 RETURN OF REGION 17174 ROTATIONS 3 AND 2

			CALCIUM PLAGE DATA					SUNSPOT DATA								
YR	MO	DA	HL NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	10	24	17228	N13 E75	260	1400	3.0		N18 E65				H	30	3	CSO
80	10	26	17228	N13 E50	259	1800	3.0									
80	10	27	17228	N14 E39	257	1800	3.0	21853	N13 E40	255	(B)	3	H	40	4	CRO
80	10	28	17228					21853	N15 E27	255	(B)	3	B	70	4	DSO
80	10	29	17228	N15 E15	254	1500	3.0	21853	N13 E12	256	(BY)	2	B	70	28	DRI
80	10	30	17228	N15 E01	254	1800	3.0	21853	N12 W02	257	(B)	4	H	100	19	DAO
80	10	31	17228	N15 W14	256	2000	3.0		N13 W17				H	70	16	DAO
80	11	1	17228	N15 W32	257	1600	3.5	21864	N22 W32	261	(AF)	2	L	40	7	CSO
80	11	1	17228	N15 W32	257	1600	3.5	21863	N13 W30	259	(B)	3	H	50	8	CRO
80	11	2	17228	N14 W43	257	1100	3.5	21863	N14 W44	260	(B)	3	H	30	1	HAX
80	11	3	17228	N15 W54	254	1300	3.0	21863	N13 W60	263	(AP)	3	H	10	1	AXX
80	11	3	17228	N15 W54	254	1300	3.0	21871	N19 W50	253	(B)	3	H	20	3	BXO
80	11	4	17228	N15 W72	258	1000	3.0	21863	N13 W75	264	(AP)	2	H	10	1	AXX
80	11	5	17228	N17 W83	257	600	2.5									

HALE REGION 17243 CMP DATE 31.3

			CALCIUM PLAGE DATA					SUNSPOT DATA								
YR	MO	DA	HL NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	10	31	17243	S17 W05	247	200	2.5									
80	11	1	17243	S17 W22	247	100	3.0	21865	S18 W18	247	AF	1				
80	11	2	17243	S17 W32	246	100	2.5	21865	S17 W29	245	(AP)	2	H		1	AXX

HALE REGION 17252 CMP DATE 31.3

			CALCIUM PLAGE DATA					SUNSPOT DATA								
YR	MO	DA	HL NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	11	4	17252	S18 W61	247	100	3.0	21873	S18 W56	245	B	2	H	20	2	BXO
80	11	5	17252	S16 W72	246	200	3.5	21873	S17 W69	245	(B)	3	R	20	2	AXX

HALE REGION 17231 CMP DATE 31.6

			CALCIUM PLAGE DATA					SUNSPOT DATA								
YR	MO	DA	HL NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	10	26	17231	N07 E68	241	700	2.5									
80	10	27	17231	N07 E55	241	1000	3.0	21854	N07 E53	242	(AP)	3	H	100	6	DAO
80	10	28	17231					21854	N09 E40	242	(B)	4	B	130	12	DSI
80	10	29	17231	N07 E28	241	1500	3.5	21854	N06 E25	243	(B)	4	B	220	27	DSI
80	10	30	17231	N07 E14	241	1800	3.5	21854	N08 E12	243	(BP)	4	H	80	12	DAO
80	10	31	17231	N07 W01	243	1400	3.5	21854	N08 W03	243	(BP)	5	H	130	13	CKO
80	11	1	17231	N07 W20	245	1400	3.5	21854	N07 W16	245	(BP)	4	H	110	7	CAO
80	11	2	17231	N07 W30	244	1200	3.5	21854	N07 W29	245	(B)	4	H	100	7	DAO
80	11	3	17231	N07 W44	244	1000	3.0	21854	N07 W43	246	(BP)	3	H	60	6	CAO

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HALE REGION 17231 (CONT) CMP DATE 31.6

			CALCIUM PLAGE DATA						SUNSPOT DATA								
YR	MO	DA	HL NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	11	4	17231	N06	W57	243	700	3.5	21854	N07	W57	246	(AP)	3	H	30	1	HAX
80	11	5	17231	N07	W69	243	700	3.0	21854	N07	W69	245	(AP)	3	B	10	2	BXO
80	11	6	17231	N06	W82	241	100	2.5										

HALE REGION 17229 CMP DATE 31.7 NEW, IN LOCATION OF 17175 ROTATION 1

			CALCIUM PLAGE DATA						SUNSPOT DATA								
YR	MO	DA	HL NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	10	26	17229	N15	E63	246	500	2.0										
80	10	27	17229	N16	E52	244	700	3.0		N17	E55				H	10	2	BXO
80	10	29	17229	N17	E27	242	800	4.0	21855	N15	E27	241	(BF)	3	B	40	12	CRO
80	10	30	17229	N17	E14	241	2100	3.5	21855	N15	E15	240	(B)	5	H	90	20	DAO
80	10	31	17229	N17	E01	241	2000	3.5	21855	N15	W00	240	(BP)	5	P	140	20	DSI
80	11	1	17229	N17	W15	240	1700	3.5	21855	N15	W12	241	(B)	3	H	90	13	DAO
80	11	2	17229	N16	W28	242	1500	3.5	21855	N15	W28	244	(B)	4	R	60	4	CAO
80	11	3	17229	N16	W42	242	1200	3.5	21872	N18	W35	238	(B)	3	H	10	2	BXO
80	11	4	17229	N16	W54	240	1100	3.5	21872	N20	W51	240	B	3	H	30	5	BXO
80	11	5	17229	N17	W66	240	1100	3.0	21872	N20	W64	240	(B)	3	P	20	4	CSO
80	11	6	17229	N17	W83	242	600	3.0	21872	N20	W80	243	B	1	P	10	3	BXO

HALE REGION 17250 CMP DATE 31.7

			CALCIUM PLAGE DATA						SUNSPOT DATA								
YR	MO	DA	HL NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS
80	11	3	17250	S08	W41	241	100	2.5										

DAILY CALCIUM PLAGE INDEX

OCTOBER 1980

YR	MO	DAY	INDEX	YR	MO	DAY	INDEX	YR	MO	DAY	INDEX
80	10	1	*	80	10	11	83.6	80	10	21	75.6
80	10	2	50.7	80	10	12	85.7	80	10	22	71.2
80	10	3	43.4	80	10	13	49.8	80	10	23	77.4
80	10	4	35.2	80	10	14	83.0	80	10	24	77.7
80	10	5	35.9	80	10	15	77.5	80	10	25	*
80	10	6	39.9	80	10	16	*	80	10	26	73.6
80	10	7	*	80	10	17	52.9	80	10	27	68.2
80	10	8	42.7	80	10	18	53.0	80	10	28	*
80	10	9	93.5	80	10	19	52.3	80	10	29	53.2
80	10	10	88.3	80	10	20	*	80	10	30	63.5
								80	10	31	67.5

* NO OBSERVATIONS

SUDDEN IONOSPHERIC DISTURBANCES

OCTOBER 1980

DAY	UNIVERSAL TIME START	END	MAX	IMP	WIDE SPREAD INDEX	NUMBER OF STATION REPORTS BY TYPE SWF	SCNA	SEA	SPA	LF-SPA	SES	SFD	KNOWN FLARE	HALE REGION
01	0029	0135	0044	1-	1	1			1				0022	17175
01	1215	1222D	1222	1-	1				1		1		1212	17177
01	1250	1325	1300	1-	3				2		2		NF	
02	0156	0252	0203	1	5	2			2		1		NF	
02	0547	0635	0552	1-	1				1				NF	
02	1703	1705	1740	3	3						3		1705E	17173
02	2159	2310	2204	1-	3	1			1		2		2159	17173
02	2320	2326	2324	1-	1	1							NF	
03	0745	0800	0755	1-	3	1			1	1			NF	
03	0820	0850	0829	1	5	1		1	1	1	2		0817	17174
03	1642	1715	1648	1	3						2		1637	17174
03	2219	2247	2230	1-	3	1			1				*	
04	0249	0324	0254	1-	3				2				0249	17174
04	0433	0526	0441	1-	3			1	2				NF	
04	1439	1528	1456	1-	3				1		1		NF	
05	0441	0459	0443	1-	3				1		1		*	
05	2306	2352	2324	1-	3				1		1		*	
06	0121	0207	0126	1-	5	1			2		1		0121	17169
06	0402	0533	0421	1-	1				2				*	
06	0855	0940	0902	2+	5	2		2	1	1	2		*	
06	1331	1428	1347	1-	1				1				*	
06	1608	1612D	1612	1-	1				1				NF	
06	2155	2224	2201	1-	3				1		1		NF	
07	0029	0058	0035	1-	1				1				*	
07	0422	0557	0434	1	5	1			2		1		*	
07	0631	0645	0637	1	5				2	1	1		*	
07	0928	1025	0937	3	5	3		1	2	1	3		0922	17182
07	1411	1416D	1416	2	5	3		1	1	1	5		1414	17188
07	1430	1450	1438	1	5			1	1	1	3		1428	17188
07	1509	1520	1513	1-	3				1		1		1502	17184
07	1559	1614	1614	1	5	1			1		5		1602	17187
07	1729	1826	1739	1-	3				1		5		NF	
07	2019	2100	2029	2	3						3		2012	17177
07	2125	2155	2132	1-	3				1		2		2123	17187
07	2211	2305D	2221	1-	3				1		1		2212	17187
07	2306	2319D	2319	2+	5	3			2		2		2305	17187
08	0128	0336E	0139	1-	3	1		1					0124	17188
08	0140	0247	0149	1	3	1			1				0143	17188
08	0324	0436	0340	1-	3				2				NF	
08	1155	1240	1202	3	5	2		2	2	1	3		*	
08	1538	1551D	1551	1	5				2		5		1533	17187
08	1653	1820	1713	1-	5				1		6		1648	17174
08	1918	1935	1921	1-	3				1		5		1917	17188
08	1942	2015	1944	1-	1						1		1939	17188
08	2025	2143	2036	1	5	2			1		6		*	
08	2256	0019	2307	1-	3	1			2		1		2255	17187
09	0236	0316	0246	1-	3	1			2		1		0236	17188
09	0409	0500	0410	1	1						1		0404	17177
09	0732	0841	0746	1-	3				1		1		*	
09	1124	1207	1133	3	5	3		2	1		2		1124E	17188
09	1750	1849	1755	2+	3						4		1749	17188
09	1953	2113	2001	2+	5	2					7		1951	17188
09	2218	2312	2223	1-	3				1		2		NF	
10	0021	0126D	0039	1-	3	1			2		1		NF	
10	0126	0149	0131	1-	3	1			1				0126E	17187
10	0301	0422	0320	1-	3	1			2				0301	17187
10	0623	0838	0643	2	3				2	1			NF	
10	1049	1102D	1102	3	5	2		2	1	1	3		1049	17188
10	1128	1245	1132	1-	1						1		1128	17188
10	1308	1350	1326	1	3	1		1	1	1	1		*	
10	1714	1800	1716	2	3						4		*	
10	1945	2015	1949	1	3						3		*	
10	2107	2121	2109	1	1	1							2108E	17188
10	2156	2252	2220	1-	3				1		1		NF	

SUDDEN IONOSPHERIC DISTURBANCES

OCTOBER 1980

DAY	UNIVERSAL TIME START	END	MAX	IMP	WIDE SPREAD INDEX	NUMBER OF STATION REPORTS BY TYPE SWF	SCNA	SEA	SPA	LF-SPA	SES	SFD	KNOWN FLARE	HALE REGION
11	0221	0712	0402	2+	3	2			2		1		0223	17188
11	0349	0506D	0404	3	3	2		1	1		1		*	
11	0412	0430	0417	1-	1						1		0412	17187
11	0813	0901	0821	1-	3	1			2		1		0815	17188
11	1325	1353	1330	1+	3	1					2		*	
11	1741	1905	1746	2	5	1					7		NF	
11	1927	1935	1929	1-	3						4		1927	17181
11	2017	2055	2029	2	3						6		2016	17181
11	2216	2250	2230	1-	3	1				1	1		2218	17181
11	2313E	2336	2318	1-	3					1	1		NF	
11	2343	0043	2350	1-	3	2					1		2344	17181
12	0129	0156D	0142	1-	3						2		NF	
12	0156	0255	0204	1-	3	1					1		0157	17188
12	0308	0400	0324	1-	1						1		0302	17188
12	0429	0507	0433	1+	1	1							0427	17187
12	0517	0541	0522	1-	3						2		NF	
12	0717	0849	0730	1-	3						2		0709	17187
12	1521	1535	1526	1	3				1		3		1519	17187
12	2251	0025D	2316	1-	3	1			2		1		2256	17187
13	0026	0106	0035	1-	3				2				0021	17185
13	0311	0345	0325	1-	3				2				0312	17181
13	0413	0540	0421	2+	5	2			2		1		0407	17188
13	0615	0714	0622	1-	3				2				0616	17187
13	0744	0800D	0800	2	3				2				NF	
13	0820	0930	0843	2+	3				2				*	
13	0943	1050	0951	3	5	2		1	1	1	1		0941	17181
13	1150	1230	1200	1	3	1		1		1	1		NF	
13	1314	1330	1324	1	3					1	1		NF	
13	1930	2045	1936	2+	3						7		1926	17188
13	2345	0188	0000	1-	3				2		1		NF	
14	0540	0806D	0610	3	5	1			2		2		0542	17188
14	0806E	0931	0812	1	3				2				*	
14	1043	1150	1110	2+	3	1				1	1		*	
14	1401	1420	1404	1-	1						1		1401	17187
14	1801	1859 D	1816	1+	3						3		1802E	17181
14	1859	1930	1903	1	1						1		1858	17181
14	2109	2148	2120	1-	3				1		1		*	
14	2220	2318	2246	1-	1				1				NF	
15	0227	0258	0236	1-	1				1				NF	
15	0509E	0746	0542	2	3	1			1				0508	17205
15	0640	0643D	0643	1-	1						1		NF	
15	1025	1100	1029	1-	1						1		1022	17181
15	1243	1400	1254	3	5	3			1	1	1		1247	17181
15	1553	1717	1615	2+	3						4		1555E	17187
15	1734	1758	1735	1+	3						5		NF	
15	1800	2014	1825	3	3						3		*	
16	0116	0154	0121	1-	3	1			2				0116	17181
16	0333	0425	0341	1-	3				2				0330	17188
16	0744	0855	0756	1	1				1	1	1		*	
16	1025	1140	1028	1	3					1	1		*	
16	1404	1422	1405	1-	3						4		1404E	17206
16	1448	1510	1450	1	3						3		1448	17206
16	1530	1555	1539	1+	3						3		NF	
16	1655	1719	1656	1+	3						5		1647	17187
17	0041	0105	0050	1-	3				2				*	
17	0812	0835	0815	1	5	2			1	1	2		0808	17188
17	1410	1455	1416	1-	3						4		NF	
17	1505	1530	1508	1+	3						4		*	
17	1610	1632	1616	1	3						7		*	
17	1633	1725	1641	2	3						7		1633	17212
17	1733	1746	1735	1-	3						3		1731	17211
17	1758	1815D	1803	1-	3						3		1749	17212
17	1838	1855	1843	1-	3						4		NF	
17	1918	1941	1920	1-	5				1		7		*	
17	2014	2055	2021	1-	3				1		5		NF	
17	2128	2214	2146	1-	3				1		1		NF	
17	2336	0012	2340	1	5	1		1	2		1		2336	17212

SUDDEN IONOSPHERIC DISTURBANCES

OCTOBER 1980

DAY	UNIVERSAL TIME START	END	MAX	IMP	WIDE SPREAD INDEX	NUMBER OF STATION REPORTS BY TYPE SWF	SCNA	SEA	SPA	LF-SPA	SES	SFD	KNOWN FLARE	HALE REGION
18	0018E	0116	0034	1-	3				1		1		0012	17212
18	0138	0648	0340	1	3	1			2		1		0142E	17212
18	0238E	03190	0245	1-	3	2			1		1		0236	17188
18	0319E	0437D	0340	1	3	1			1		1		NF	
18	0437E	0534	0444	1-	1				1				NF	
18	1040	1120	1043	1	5			1	1	1	2		*	
18	1407	1430	1411	1+	1						1		1405	17188
18	1504	1540	1510	1-	3						7		1544	17206
18	1545	1557	1546	1-	3						4		NF	
18	1645	1715	1648	1-	3						4		NF	
18	1819	1932	1839	2+	3						7		1819	17212
18	1934	2120	1942	2	3						6		1934	17212
18	2130	2238	2152	1	3				1		3		2129	17212
18	2331	00000	2336	1-	3	1			2		1		2330	17212
19	0000E	0037D	0006	1-	3	1			1		1		0001	17212
19	0037E	0141	0040	1-	1				1				NF	
19	0151	0414	0308	1-	1				1				0150	17188
19	0302	0358	0309	1-	3				1		1		0303E	17212
19	0510	0719	0545	1-	3				2				NF	
19	05330	0642D	0547	1	3	1			1		1		0544E	17212
19	0642E	0704	0646	1-	3				1		2		0632	17212
19	0938	1030	0945	1	5	1		2	1	1	2		0939	17212
19	1237	1320	1242	1	3	2		2		1	1		*	
19	1654	1721	1658	1	3						4		1653	17212
19	2350	0051	0004	1-	3	1		1	2				NF	
20	0414	0709	0454	1-	3				2				NF	
20	0445E	0527D	0453	1	3				1		1		0446	17212
20	0629	0705	0639	1-	1				1				NF	
20	0900	0954	0907	1-	3	1		1	1	1			0904E	17206
20	1030	1120	1040	1-	3			1	1	1			*	
20	1833	1935	1835	2	3						6		1831	17212
21	0003	0137	0045	1-	3				2				0003E	17214
21	0158	0236	0205	1-	1				1				*	
21	0956	1050	1006	1	3			1	1	1			*	
22	0508	0532	0517	1-	3			1	1				*	
22	1530	1610	1535	2	3						6		1527	17214
23	0000	0144	0018	2	3	1			2		1		0000	17214
23	0736	0840	0741	3	5	4			2	1	2		0736	17214
23	1034	1120	1036	2+	5	3			1	1	2		1035	17201
23	1220	1300	1227	2+	5	1		3		1	1		*	
23	1553	1625	1555	1	3						4		1553	17214
24	2219	2313	2233	1-	3				1		1		2219	17211
25	0406	0512	0424	1-	3				2				0410	17212
25	0537	0757	0550	2	5	1			2		1		0535	17214
25	0816	0923	0828	1	3				1		2		0802	17214
25	0945	1040	0948	3	5	3		3	1	1	2		0942	17214
25	2214	2241	2221	1-	3				1		5		2213	17212
26	0003	0026	0008	1-	3				1		1		0001	17211
26	1403	1440	1407	1-	3	2		2		1	1		NF	
26	1830	1900	1834	1	1						1		1826	17211
26	2006	2100	2013	1+	3						5		NF	
26	2239	2319	2246	1-	3				1		2		2241	17223
27	0118	0321	0228	1-	3				2				0118	17223
27	0216	0325	0230	1-	1				1				0218E	17225
27	0724	0800	0732	1	3				1	1	1		0722	17232
28	0307	0512	0316	1	3	1			2		1		*	
28	0429E	0500	0439	1-	1				1				0425	17212
28	0925	1000	0930	1	3	1		2		1	1		0923E	17230
28	1110	1140	1114	1	3					1	1		*	
28	1901	1940	1905	1-	3						5		*	
28	2217	2318	2223	1-	3				1		2		2218	17212
29	0616	0750	0622	1	1				1				NF	
29	1139	1220	1142	3	5			2	1	1			1144E	17232
29	1530	1550	1535	1-	3						7		1526E	17230
29	1644	1715	1648	1-	3						2		1643	17212
30	0207	0305	0212	1-	3				2				0206E	17232
30	0315	0418	0325	1-	3				2				0310	17232
30	0726	0817	0734	1-	1				1				0722	17211
30	2053	2149	2101	1-	3				1		5		*	
31	0205	0241	0208	1-	3				2		1		0206E	17226
31	0932	1000	0936	2+	3			1		1	1		*	
31	1348	1410	1353	1-	3			1		1			*	
31	1508	1530	1513	1	1						1		1509	17238
31	1715	1730	1717	1-	3						4		NF	

SUDDEN IONOSPHERIC DISTURBANCES

OCTOBER 1980

PERIODS OF NO OBSERVATIONS:

DATE	TIME (UT) AND STATION	DATE	TIME (UT) AND STATION
01-19	0000-2400 Louisville	13	2327-2358 WWV
01-23	0000-2400 Mahwah	19	0425-0502 WWV
07	1000-1400 Sao Paulo	27	2048-2400 Glenorchy
10-31	0000-2400 Sao Paulo	28	0000-0518 Glenorchy

STATIONS REPORTING FOR OCTOBER 1980:

Cleveland, Ohio, USA	SES	Louisville, Kentucky, USA	SES
Darmstadt, GFR	SWF	Maui, Hawaii, USA	SWF
Glenorchy, Tasmania, Australia	SWF	Mahwah, New Jersey, USA	SES
Hiraiso, Japan	SWF	Missoula, Montana, USA	SES
Hobart, Tasmania, Australia	SEA	Panska Ves, Czechoslovakia	SWF, SEA, SES
Houston, Texas, USA	SES	Portage, Michigan, USA	SES
Inubo, Japan	SPA	Preston, United Kingdom	SEA
Juliusruh, GDR	SPA	Sao Paulo, Brasil	SES, SPA
Kasugai, Japan	SPA	Sofia, Bulgaria	SES
Kuhlungsborn, GDR	LF-SPA, SEA	St. Cloud, Minnesota, USA	SES
Lake Hiawatha, New Jersey, USA	SES	Thornwood, New York, USA	SES
Latrobe, Pennsylvania, USA	SES	Valley Cottage, New York, USA	SES

SIDs BY HALE REGION

OCTOBER 1980

DAY	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
REGION																															
17169						1																									
17173		2	2	1																											
17174								1																							
17175	1																														
17177	1								1																						
17181											4		2	2	2	1															
17182							1																								
17184							1																								
17185													1																		
17187							5	2		2	1	4	1	1	1	1															
17188							2	4	4	3	2	2	2	1		1	1	2	1												
17201																							1								
17205															1																
17206																2		1		1											
17211																	1							1	2	2				1	
17212																	3	6	6	2								2	1		
17214																					1	1	3		3						
17223																										1	1				
17225																											1				
17226																															1
17230																												1	1		
17232																											1		1	2	
17238																															1
NO FLARE	1	3	1	2		2	1	1	1	3	2	2	3	1	3	1	4	4	3	2						2			1		1
NO FLARE PATROL			1		2	3	3	3	1	3	1		1	3	1	2	4	1	1	1	2	1	1					3		1	2
EVENT TOTALS	2	2	2	1		1	9	7	5	5	7	6	6	4	4	5	5	9	7	3	1	1	4	1	5	3	2	2	1	1	2

MAGNETIC FIELD MAGNITUDES

OCTOBER 1980

DATE	TIME	BMAG
10/01/80		----
10/02/80	05:29:35	12.53
10/03/80	05:31:59	11.75
10/04/80	05:35:29	5.22
10/05/80	05:36:55	6.82
10/06/80	04:11:08	11.15
10/07/80		----
10/08/80		----
10/09/80	05:47:02	13.68
10/10/80	05:50:31	8.49
10/11/80	05:53:17	15.57
10/12/80	08:46:03	9.45
10/13/80	05:58:18	11.27
10/14/80	06:00:33	11.70
10/15/80		----
10/16/80	06:05:47	13.04
10/17/80	06:11:10	12.17
10/18/80	06:09:06	11.58
10/19/80		----
10/20/80	06:13:58	8.86
10/21/80	06:17:38	10.34
10/22/80		----
10/23/80	06:21:20	17.78
10/24/80	06:25:10	12.05
10/25/80	06:26:45	11.91
10/26/80	06:31:24	9.35
10/27/80	06:32:21	7.60
10/28/80	06:36:05	18.67
10/29/80	06:41:46	12.54
10/30/80	05:43:49	8.86

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

OCTOBER 1980

DAY	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
01	0000	0722	CULG	0006	0006.5	1							IIIG
			CULG				0006	0156					IIIN,W
			CULG	0023	0023.5	1	0022.5	0024	1				IIIG,V
			LEAR				0023.0	0028.2	2				CONT
			CULG				0023.5	0024	1				UNCLF
			CULG				0027	0028	2				IIIG,V
			PALE				0027.5	0038.6	2				S
			CULG	0036.5	0037	2	0036	0037.5	2				IIIG,V
			LEAR				0036.6	0039.3	2				CONT
			CULG	0037.5	0038.5	3	0037.5	0039	3	0038	0038.5	1	IIIG,V,U
			LEAR				0058.9	0100.7	1				CONT
			CULG	0138	0140	1	0139	0140	2				IIIG,U
			LEAR				0139.4	0140.0	1				CONT
			CULG	0156.5	0157	1	0156.5	0157.5	1				IIIG
			LEAR				0156.8	0158.1	1				V
			CULG				0536						IIIB,W
			LEAR				0536.1	0536.3	1				III
			CULG				0542	0543					IIIG,W
			CULG	0701.5		1							IIIB
			CULG				0710.5	0711.5	1				IIIG
			LEAR				0711.1	0711.8	1				CONT
	0558	1106	WEIS				0711.2	0711.4	1				IIIG
			WEIS				1025.9	1026.4	2				IIIG
			WEIS				1029.6	1030.4	2				III,DCIM
	0625	1552	BLEN	1029.6	1030.3	2	1029.6	1030.3	2				IIIG
			BLEN	1438.9	1442.7	1	1442.3	1442.7	1				IIIG
	1120	1627	WEIS				1442.7	1443.0	2				IIIG
	1318	2245	HARV	1443		1	1443		3				IIIG
			HARV	1506	1508	3	1506	1510	3				IIIGG
	0835	1605	DWIN	1506.0	1512	1							IV
			WEIS				1506.1	1508.6	2				IIIGG,DCIM
			BLEN	1506.5	1508.4	3	1506.0	1509.7	3				IIIGG
			HARV				1507		1				IIIB
			SGMR				1507.5	1508.1	2				III
			HARV				2005	2006	2				IIIG
			HARV	2007		1							IIIG
			HARV	2104	2105	2	2104	2105	3				IIIG
	2022	2400	CULG	2104.5	2105	1	2104.5	2105	1				IIIG
			CULG	2107.5	2108		2107.5						IIIG,:
			CULG				2227						IIIB,W
02	0000	0722	CULG				0114	0115	1				IIIG
			CULG				0127.5	0128					IIIG,W
			CULG	0129	0130								IIIG,W
			CULG	0309.5	0310								IIIG,W
			CULG	0312.5	0315	1							IIIGG
			CULG				0313	0313.5					IIIG,W
			CULG				0341.5						IIIB,W
			CULG	0448	0448.5		0448	0448.5					IIIG,W
			CULG	0557	0600	2	0557.5	0559.5	2				IIIGG,U
	0557	1204	WEIS				0557.5	0559.6	2				IIIG
	0612	1605	DWIN										
	0630	0712	BLEN										
	0800	1550	BLEN	0816.8	0816.9	2	0816.8	0816.9	1				IIIB,RS
			BLEN				0956.1	0956.2	1				III
			WEIS				0957.8	0958.1	1				IIIB
			BLEN				1013.1	1314.3	3				IIIG,U,RS
			WEIS				1013.7	1014.5	2				IIIG
			BLEN	1038.5	1039.6	1	1038.5	1039.6	2				IIIG
			WEIS				1038.7	1039.4	2				IIIG
			BLEN				1147.8	1148.5	2				IIIG,RS
			BLEN				1506.9	1508.7	1				IIIG
			BLEN				1549.3	1550 D	2				IIIGG,RS
	1238	1624	WEIS				1549.4	1550.5	1				III,DCIM
	1319	2240	HARV	1550		1	1549	1551	3				IIIG
	2022	2400	CULG				2106.5	2109	1				IIIGG
			PALE				2107.8	2108.9	1				V
			HARV				2108	2109	2				IIIG
			CULG	2158	2201	3	2158.5	2210	3	2159.5	2200	1	IIIGG,V
			HARV	2158	2200	2	2158	2200	3				IIIGG,V

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

OCTOBER 1980

DAY	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
02			PALE				2159.1	2208.8	2				CONT
			HARV				2200	2212	1				I
			HARV				2202	2213	3				II
			CULG				2204.5	2214	2				II,W
			CULG				2205	2221	1				IIIN
			CULG				2336.5						IIIB,W
03	0000	0721	CULG				0025.5	0026					IIIG,W
			LEAR				0026.0	0026.3	1				III
			PALE				0026.2	0026.4	1				III
			CULG	0135.5	0136		0135.5	0136					IIIG,W
			LEAR				0136.0	0136.3	1				III
			CULG	0138.5	0139								IIIG,W
			CULG	0139.5	0140.5	2	0139.5	0140.5	2	0140	0140.5	1	IIIG
			LEAR				0139.9	0140.6	2				V
			PALE				0140.0	0140.9	2				V
			LEAR				0157.7	0158.0	1				III
			CULG	0344	0344.5	1	0344		1				IIIB
			CULG	0418			0418						IIIB,W
			CULG				0421	0721					IIIN,W
			LEAR				0546.0	0617.3	1				S
			CULG				0550.5	0617	1				IIIS
			LEAR				0758.7	0759.2	2				CONT
	0740	1622	WEIS				0759.3	0759.4	2				IIIG
	0805	1020	DWIN										
			WEIS				0910.7	0913.4	2				IIIG
			LEAR				0910.9	0912.0	1				CONT
			WEIS				1002.4	1002.8	2				IIIG
			WEIS				1005.1	1005.7	1				IIIG
			WEIS				1034.7	1034.8	1				IIIG
	1125	1600	DWIN										
			WEIS				1132.9	1133.9	2				IIIG
			WEIS				1209.1	1209.4	1				IIIG
	1319	2245	HARV	1559	1600	2	1559	1600	3				IIIG
			WEIS				1559.1	1559.3	1				IIIB
			HARV				1746	1747	1				IIIG
			HARV				2113	2125	2				IIIGG
	2021	2400	CULG	2119	2120.5		2117	2120.5					IIIGG,W
			CULG				2309						IIIB,W
			CULG				2311	2312					IIIG,W
04	0000	0721	CULG				0043						IIIB
			CULG				0204.5	0205	1				IIIG
			LEAR				0204.8	0206.1	1				CONT
			CULG				0444		1				IIIB
			LEAR				0444.3	0444.4	1				III
	0615	1600	DWIN										
	0602	1620	WEIS				0621.9	0622.1	1				IIIB
			CULG				0622						IIIB
			CULG				0702.5	0703.5					IIIG,W
	1318	2245	HARV				1546	1547	1				IIIGW
			HARV	1621	1623	2	1621	1623	3				IIIG
			HARV				2041		2				IIIG
	2021	2400	CULG	2041	2042		2041						IIIB,W
			CULG				2115.5						IIIB,W
			CULG				2138	2226	1				IIIS
			CULG	2139	2219	1							IIIN
			HARV				2139	2148	2				IIIG
			PALE				2139.0	2140.5	1				CONT
			CULG				2140	2140.5	2				IIIG
			CULG	2146	2157								IV
			CULG				2153	2229	1				IS
			CULG				2153	2229	1				SLOW DRIFT
			PALE				2157.3	2239.0	1				S
			HARV				2201	2217	1				I
			HARV				2205		1				IIIG
			CULG				2212	2212.5	2	2212	2212.5	2	IIIG
			HARV	2218		1							IIIGW
			CULG				2226	2400					IIIN,W
05	0000	0721	CULG				0000	0128					IIIN,W

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

OCTOBER 1980

DAY	TIMES OF OBSERVATION START UT	TIMES OF OBSERVATION END UT	STATION	EVENTS: DECIMETRIC BAND START UT	DECIMETRIC BAND END UT	DECIMETRIC BAND INT	METRIC BAND START UT	METRIC BAND END UT	METRIC BAND INT	DEKAMETRIC BAND START UT	DEKAMETRIC BAND END UT	DEKAMETRIC BAND INT	SPECTRAL TYPE
05			CULG				0102.5	0103	1				IIIG
			LEAR				0102.8	0103.3	1				CONT
			LEAR				0128.2	0128.4	1				CONT
			CULG				0406	0545					IS,W
			CULG	0410	0412		0409	0421					IIIN,W
			CULG				0520.5		1				IIIB
			CULG				0545	0720					IN,W
	0602	0651	WEIS										
	0620	1600	DWIN										
			CULG				0720.5		1				IIIB
	0741	1618	WEIS				0851.7	0851.9	1				IIIB
	1319	2330	HARV	1428	1429	1	1428	1429	2				IIIG
			HARV	1452		2	1452		3				IIIG
			HARV				1517	1728	1				INW
			HARV				1752		1				IIIG
			HARV				2010	2011	2				IIIG
			HARV				2108	2109	3				IIIG
	2021	2400	CULG				2108	2400					IIIN,W
			PALE				2110.2	2110.4	1				III
			CULG				2110.5		2				IIIB
			PALE				2117.0	2119.1	3				V
			CULG	2117.5	2119.5	2	2117	2119	3				IIIGG
			HARV	2118	2119	3	2117	2122	3				IIIGG
			CULG				2119.5	2126	1				IIIN,U
			HARV				2137	2138	2				I
			CULG				2140.5		1				IIIB
			HARV				2210		1				I
			HARV				2249	2252	3				IIIG
			CULG				?250	2250.5	1				IIIG
			CULG				2252.5		1				IIIG
			CULG	2300	2300.5	1							I
			CULG				2307.5	2308	3				IIIB
			LEAR				2307.7	2308.1	1				V
			PALE				2307.9	2308.1	1				III
			HARV				2308		3				IIIG
			HARV				2324		1				IW
			CULG				2340	2340.5	1				IIIG
			CULG	2356	2359								IIIGG,W
06	0000	0728	CULG				0001	0635					IIIN,W
			LEAR				0006.2	0014.9	2				CONT
			CULG	0008	0011	1	0006	0015	1	0008	0010.5	2	IIIS
			PALE				0008.2	0010.1	1				CONT
			CULG	0010		1	0010		2	0010.5		2	IIIB
			CULG				0030.5	0032.5	1				IIIGG
			LEAR				0030.8	0032.1	1				CONT
			CULG	0104.5		1	0104.5		1				IIIB
			CULG				0116	0123	1				N,RS,DP
			LEAR				0116.0	0123.2	2				CONT
			PALE				0116.0	0022.1	2				CONT
			CULG	0117.5	0123	2	0115.5	0123	3	0116	0122.5	2	IIIGG
			CULG				0216		1				IIIB
			LEAR				0216.1	0216.3	1				III
			CULG				0247.5	0248	1				IIIG
			CULG	0247.5	0248					0247.5	0248		IIIG,W
			LEAR				0247.6	0248.2	1				CONT
			CULG	0400.5	0403		0401.5	0404.5					CONT
			LEAR				0405.9	0406.1	2				III
			CULG				0406		1				IIIB
			LEAR				0407.3	0411.7	2				V
			CULG	0407.5	0412	1	0407	0409	2	0407.5	0408.5	2	IIIGG
			CULG	0427.5			0427.5						IIIB,W
			LEAR				0435.8	0436.0	1				V
			CULG				0436		1	0436		1	IIIB
			CULG				0500	0536					IN,W
			CULG				0502	0506.5	1				IIIGG
			CULG				0502	0506	1				N,RS,DP
			LEAR				0502.7	0506.0	1				CONT
			LEAR				0530.1	0530.5	1				V
			LEAR				0606.4	0607.0	1				V

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06			CULG				0606.5	0608	2				IIIG
	0604	1616	WEIS				0622.9	0624.1	1				IIIG
			WEIS				0626.0	0626.3	1				IIIG
			WEIS				0633.7	0634.1	2				IIIG
			LEAR				0633.9	0634.1	1				III
			CULG				0639		2				IIIB
			LEAR				0803.1	0809.9	2				CONT
			WEIS				0803.3	0809.9	2				IIIGG,DCIM
	0712	1600	DWIN	0829.0	0833.5	1						IV	
			DWIN	0855.0	0855.7	3							IIIG
			WEIS				0855.2	0855.7	3				III,DCIM
			WEIS				1005.7	1013.1	3				IIIGG
			WEIS				1016.6	1023.3	3				IIIGG
			DWIN	1019.6	1020.2	1						IV	
			DWIN	1035.0	1049	2						IV	P
			WEIS				1036.6	1046.3	2				IIIGG,DCIM
	1319	2245	HARV				1331		1				I
			WEIS				1342.6	1344.5	2				IIIGG
			HARV	1343		1	1343	1344	2				IIIG
			WEIS				1436.6	1441.3	3				IIIG
			HARV	1437		2	1436	1441	3				IIIGG
			HARV	1451		1	1451		2				IIIG
			WEIS				1512.7	1512.9	2				IIIG
			HARV				1513		2				IIIG
			HARV				1523	1525	2				IIIG
			WEIS				1534.8	1536.8	3				IIIG
			HARV	1535		1	1535		2				IIIG
			HARV				1557		2				I
			WEIS				1608.9	1609.0	1				IIIB
			HARV				1609		1				IIIG
			HARV				1639	1640	3				IIIG
			HARV	1645	1649	1	1645	1649	1				IIIG
			HARV				1728	1729	1				IIIGW
			HARV				1735		2				IIIB
			HARV				1825		3				IIIG,U
			PALE				1825.2	1825.8	1				III
			HARV				1830		2				IIIG
			HARV				1946	2242	1				INW
	2020	2400	CULG	2035	2400								IN,W
			CULG				2036	2343					IIIN,W
			CULG				2056	2057	1				IIIG
			HARV				2057		2				IIIB
			CULG				2059.5	2101	2				IIIG
			HARV				2100	2101	2				IIIG
07			LEAR				0050.2	0050.3	1				III
	0000	0720	CULG				0050.5		1				IIIB
			CULG	0054	0340								IN,W
			CULG				0054.5						IIIB,W
			CULG	0340	0720								IS,W
			CULG				0353	0405					IS,W
			CULG				0444	0658					IIIN,W
			LEAR				0527.8	0530.8	1				CONT
	0606	0725	WEIS										
	0620	1600	DWIN										
	0731	0807	WEIS										
	0914	1614	WEIS				0919.7	0920.4	1				IIIG
			LEAR				0919.8	0920.1	1				III
			WEIS				0933.1	0934.7	1				IIIG
			WEIS				1037.9	1038.7	3				IIIG
			WEIS	1109.7	1110.2	1							III,DCIM
			WEIS				1121.3	1121.5	2				IIIG
			WEIS				1131.7	1133.3	2				IIIG
			WEIS				1155.8	1156.1	2				IIIG
	1319	2240	HARV	1341	1342	1	1341	1342	2				IIIG
			WEIS				1342.1	1342.5	2				IIIG
			HARV				1525	1529	1				I
			HARV				1532	1536	1				IIIGW
			WEIS				1601.6	1602.9	1				IIIG
			HARV				1602	1603	2				IIIG

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07			HARV	1856		2	1856		3				IIIG
			HARV	2020	2021	1	2020	2021	1				IIIGW
	2020	2400	CULG	2020	2023								IIIN,W
			HARV				2052	2240	1				INW
			CULG				2101	2101.5					I
			CULG				2102	2400					IIIN,W
			CULG	2143	2400								IN,W
			HARV				2157	2158	3				IIIG
			CULG				2157.5		2				IIIB
			CULG	2307	2400								CONT
			CULG							2308	2330	2	SWF
			CULG	2315	2316								IIIG,W
			CULG				2316	2317.5	1				IIIG
			LEAR				2316.0	2316.6	1				CONT
			CULG				2320	2400	1				IS,C
			CULG	0000	0720								IN,W
			CULG				0000	0648					IIIN,W
	0000	0720	CULG				0000	0045	1				IS,C
			CULG				0045	0237					IS,W
	.		CULG	0141.5	0142.5	2	0142	0143	2				IIIG,U
			LEAR				0142.4	0142.8	1				CONT
			CULG							0144	0155	1	SWF
			CULG	0217	0217.5	1							IIIG
			LEAR				0218.0	0221.2	1				CONT
			CULG				0223	0237	2			II	
			LEAR				0223.3	0229.2	1			II	
			CULG				0226	0229	1				IIIGG
			CULG				0232	0232.5	1	0232	0232.5	1	IIIG
			LEAR				0232.2	0232.7	2				CONT
			CULG	0258.5	0259	1	0258.5	0259.5	2				IIIG
			LEAR				0258.9	0259.3	1				CONT
			CULG				0657.5	0701	1				IIIGG
	0625	1600	DWIN	1154.5	1156.2	2							IIIG
	0607	1612	WEIS	1154.7	1155.5	2							IIIRS
			DWIN	1412.5	1413.0	2							IIIG
			DWIN	1534.0	1539.0	2							IIIG
	1319	2245	HARV	1535	1536	3	1535	1536	3				IIIG
			WEIS				1535.4	1535.6	2				IIIG,DCIM
			HARV				1647	2242	1				INW
			HARV				1700	1709	2			II	
			HARV				1702	1706	2				IVP
			PALE				1915.5	1935.0	1				S
			HARV	2009	2012	1	2009	2012	2				IIIGG
	2019	2400	CULG				2019	2157					IS,W
			CULG				2020	2329					IIIN,W
			CULG	2021	2032	2	2025	2030	2				IIIGG
			HARV	2021	2031	3	2021	2031	3				IIIGG,V
			CULG	2027	2029		2026	2032					CONT
			CULG				2043		1				IIIB
			HARV				2043		1				IIIG
			CULG	2111	2400								IN,W
			CULG				2156	2157	1				DC
			CULG	2339	2342	1	2339	2343	2	2339	2342	1	IIIGG
			LEAR				2339.0	2343.3	1				V
			PALE				2340.0	2342.6	1				V
09	0000	0716	CULG	0121	0716		0203	0716					IS,W
			CULG				0225	0716					IIIN,W
			CULG	0240	0240.5	1							IIIG
			CULG	0356.5	0359								DCIM
			CULG				0459	0502	1				IIIG
			LEAR				0608.5	0608.6	1				III
	0608	0804	WEIS				0701	1550	2				IN,DC
			LEAR				0751.5	0751.6	1				III
	0808	1528	WEIS				0751.5	0751.6	1				IIIB
	1548	1609	WEIS				0756.7	0758.2	2				IIIG,DCIM
			LEAR				0756.8	0757.2	2				V
	0720	1550	DWIN	1142.4	1145.0	1							IIIG
	1319	2245	HARV				1319	1540	2				I

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09			HARV				1411	1412	2				IIIG
			HARV				1541	2245	1				IN
			HARV				1626	1627	2				IIIG
	2019	2400	CULG				2019	2400	1				IS,DC
			CULG				2020	2400					IIIS,W
			PALE				2038.0	2039.3	1				V
			CULG				2039		2				IIIB
			HARV				2039		3				IIIB
			CULG				2047	2345	1				IIIN
			CULG				2059.5		2				IIIB
			HARV				2100		2				IIIB
			CULG	2204	2400								IN,W
			CULG				2252	2344	1				N,RS,DP
			LEAR				2310.7	2310.8	1				III
			CULG				2341.5	2343.5	1				IIIGG
			LEAR				2341.7	2343.5	1				CONT
10	0000	0719	CULG				0000	0300					IS,DC,W
			CULG				0000	0719					IIIS,W
			CULG	0000	0719								IN,W
			CULG				0023	0540	1				IIIN
			LEAR				0028.6	0058.6	1				S
			CULG				0035.5		1	0035.5		1	IIIB
			CULG				0124	0125	2	0124.5	0125	2	IIIB,V,U
			LEAR				0124.3	0125.6	2				V
			PALE				0124.5	0128.2	1				CONT
			CULG	0126.5	0127	1	0126.5	0129	2	0127.5	0128.5	2	IIIG,V
			LEAR				0126.6	0129.8	2				V
			LEAR				0133.9	0134.2	1				III
			CULG	0136	0136.5	1	0136	0136.5	1				IIIG,U
			LEAR				0203.5	0204.0	1				V
			LEAR				0214.8	0324.1	1				B
			PALE				0225.3	0228.5	2				CONT
			CULG	0226	0226.5	1	0225.5	0226.5	3	0225.5	0226.5	1	IIIG
			CULG				0239	0703					N,RS,DP
			CULG				0300	0719	1				IS,DC
			CULG	0346.5	0347	2	0346.5	0347	1				IIIG
			CULG				0411		2	0411		1	IIIB
			LEAR				0411.2	0411.4	2				V
			LEAR				0511.7	0511.9	1				III
			LEAR				0530.5	0530.7	1				III
			LEAR				0539.8	0540.0	1				III
			LEAR				0554.9	0557.1	2				CONT
			CULG				0555.5	0557	2				IIIGG
			CULG				0614.5	0615	2				IIIG
			LEAR				0614.5	0616.3	2				CONT
	0610	1638	WEIS				0614.7	0616.2	2				IIIG
			CULG				0616		2				IIIB
	0625	1310	DWIN										
			LEAR				0648.6	0649.7	1				CONT
			WEIS				0648.6	0649.7	2				IIIG
			WEIS				0941.4	0941.6	2				IIIG
			WEIS				0946.3	0946.5	2				IIIG
			WEIS				0949.7	0949.8	2				IIIB
			WEIS				0951.5	0953.3	2				IIIG
			WEIS				0954.8	0954.9	1				IIIB
			WEIS				1017.2	1017.3	1				IIIB
			WEIS				1021.6	1025.3	2				IIIG
			WEIS				1235.6	1237.0	1				IIIG
			WEIS				1305.7	1305.9	2				IIIB
			WEIS				1307.4	1307.8	1				IIIG
	1319	2245	HARV				1322	2245	1				IN
			WEIS				1341.3	1341.5	1				IIIB
			HARV				1413	1415	2				IIIG
			WEIS				1413.5	1414.7	2				IIIG
			HARV				1739		1				IIIG
			HARV				1750	1751	1				IIIG
			HARV				1803	1804	2				IIIG
	2019	2400	CULG	2019	2400								IS,W
			CULG	2021	2021.5	2	2021	2021.5	3				IIIG

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10			HARV				2021	2023	3				IIIG
			PALE				2021.2	2022.9	2				CONT
			CULG	2022.5	2023	2	2022.5	2023	2				IIIG
			CULG				2023	2400					IIIN,W
			CULG				2050	2400					IN
			CULG	2148.5	2149	1	2148.5	2149	2	2148.5	2149.5	2	IIIG
			PALE				2148.7	2154.2	2				CONT
			HARV				2149		2				IIIG
			HARV				2152	2154	3				IIIG
			CULG	2154		1	2153.5	2154	2				IIIG
			CULG	2236	2237	1							IIIG
			CULG	2254.5	2255.5	2	2254.5	2255.5	1				IIIG
			CULG	2305.5	2306	1							IIIG
			CULG				2337	2345					CONT
			CULG				2351.5		1				IIIB
			LEAR				2351.6	2351.8	1				III
11	0000	0719	CULG	0000	0719								IN,W
			CULG				0007	0702					IIIN,W
			CULG	0008	0008.5	1	0008	0008.5	1				IIIG
			LEAR				0008.3	0008.5	1				III
			CULG				0027	0125	1				N,DC
			CULG				0027	0146					IS,W
			LEAR				0035.0	0035.2	1				III
			PALE				0148.2	0150.5	1				CONT
			CULG	0357.5	0358	1							IIIG
			CULG							0358	0419	1	SWF
			CULG	0400	0401	1							IIIG
			CULG	0413	0414.5	1	0413	0415	2				IIIGG
			LEAR				0413.0	0416.2	2				CONT
			CULG				0423	0719					IN,W
			LEAR				0539.9	0541.3	2				CONT
			CULG				0540	0541.5	2				IIIGG
	0611	0807	WEIS										
	0630	1545	DWIN	0842.0	0847.5	1							IIIG
	0826	1638	WEIS				1013.9	1014.1	1				IIIB
			WEIS				1018.0	1018.1	1				IIIB
			DWIN	1323.6	1324.7	2							IIIG
	1334	2310	HARV				1334	1900	1				I
			WEIS				1356.0	1356.0	1				IIIB
			WEIS				1358.3	1358.6	1				IIIG
			WEIS				1403.7	1406.7	1				IIIG
			HARV				1404	1406	1				IIIGW
			WEIS				1409.6	1409.8	1				IIIB
			WEIS				1416.7	1439.8	2				IIIGG
			HARV				1417	1419	1				IIIG
			HARV				1624		1				IIIG
			HARV	1632		1	1632		1				IIIGW
			HARV				1725	1726	1				IIIGW
			HARV				1735	1736	2				IIIG
			HARV				1739	1740	2				IIIG
			HARV				1900	2310	2				I
			HARV				1907		1				IIIG
			HARV				1951	1952	1				IIIG
			CULG				2019	2400	1				N,DP
	2019	2400	CULG	2019	2400								IS,C,W
			CULG				2019	2400					IIIS,W
			CULG				2019	2400	2				IS,C,DC
			CULG				2019	2400	1				N,RS,DP
			LEAR				2258.0	1009.0	1				B
			HARV	2304	2305	2	2304	2305	2				IIIG
			CULG	2304.5		1							IIIB
			CULG	2305.5	2306	1							IIIG
			CULG	2344.5	2345								UNCLF
12	0000	0719	CULG				[illegible]	1300	2				IS,C,DC
			CULG	0000	0719								IS,W
			CULG				0000	0719	1				N,RS,DP
			CULG				0000	0719					N,DP
			CULG				0000	0719					IIIS,W

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DAY	TIMES OF OBSERVATION START UT	TIMES OF OBSERVATION END UT	STATION	EVENTS DECIMETRIC BAND START UT	DECIMETRIC BAND END UT	DECIMETRIC BAND INT	METRIC BAND START UT	METRIC BAND END UT	METRIC BAND INT	DEKAMETRIC BAND START UT	DEKAMETRIC BAND END UT	DEKAMETRIC BAND INT	SPECTRAL TYPE
12			CULG				0028.5	0030	2	0028.5	0029	1	IIIG
			CULG	0138	0200	1	0008	0719	1				IIIN
			CULG				0148	0149.5	3				IIIG
			LEAR				0148.2	0151.0	2				CONT
			CULG				0150.5		2	0150.5		1	IIIB
			CULG				0300	0719	1				IS,C,DC
			CULG				0324		2				IIIB
			LEAR				0324.0	0324.9	2				CONT
			CULG	0404	0431	1							IIIN
			CULG				0439	0439.5	3	0439	0439.5	2	IIIG
			LEAR				0439.0	0439.4	2				V
			CULG				0539.5	0540.5	3	0539.5	0540	1	IIIB,V
			LEAR				0539.6	0540.4	2				V
			CULG	0558	0602	2							IIIN
			CULG				0646.5		2				IIIG
			CULG				0715	0717	3				IIIGG
			LEAR				0715.5	0717.0	2				CONT
	0630	1545	DWIN	0718.5	0728.6	2							IIIGG
	0645	1458	BLEN				0818.6	0819.3	1				IIIG
			DWIN	0914.3	0914.8	1							IIIG
			BLEN	0914.4	0914.7	1							DCIM
			DWIN	0923.5	0944	1							IV
	0825	1604	WEIS				0930.5	0952.3	2				IIIGG
			WEIS				1034.8	1040.8	2				IIIGG
			BLEN				1038.8	1040.8	2				IIIG
			WEIS				1043.4	1043.6	2				IIIG
			WEIS				1047.4	1049.5	1				IIIG
			WEIS				1051.4	1054.7	1				IIIG
			WEIS				1111.4	1111.5	1				IIIB
			BLEN	1120.7	1121.6	1							DCIM
			WEIS				1123.7	1123.8	1				IIIB
			WEIS				1148.9	1150.9	3				IIIGG
			BLEN				1149.1	1150.9	2				IIIG,V
			BLEN	1211.3	1219.6	1							DCIM
			WEIS				1212.3	1214.6	2				IIIGG
			WEIS				1232.2	1223.9	2				IIIB
			WEIS				1255.7	1255.8	1				IIIB
			DWIN	1320.6	1320.9	2							IIIG
			BLEN	1320.7	1323.4	2							DCIM
	1335	2245	HARV				1335	2245	1				I
			DWIN	1410.8	1411.0	1							IIIG
			WEIS				1430.4	1441.7	1				IIIG
			HARV				1437	1438	1				IIIGW
			WEIS				1446.7	1448.4	1				IIIG
			HARV				1447	1448	2				IIIG
			BLEN	1453.4	1453.7	2							DCIM
	0630	1545	DWIN	1453.4	1453.7	2							IIIG
			DWIN	1500.0	1500.5	3							IIIG
			WEIS				1518.4	1525.7	3				IIIGG,DCIM
			HARV	1519	1524	3	1518	1524	3				IIIGG,V
			DWIN	1519	1522	1							IV
			HARV				1909	1910	2				IIIG
			HARV				1929	1930	2				IIIG
	2019	2400	CULG	2019	2400	1	2019	2400	1				IS
			CULG				2019	2400					IIIN,W
			CULG	2116.5	2117	2							IIIG
			HARV				2117		2				IIIG
			CULG				2126		1				IIIB
			HARV				2126		1				IIIBW
			CULG	2132	2132.5	2	2132	2132.5	1				IIIG
			HARV				2132	2133	2				IIIG
			CULG				2156	2156.5	2				IIIG
			HARV				2156		2				IIIG
			CULG	2208.5		2	2208.5		1				IIIB
			HARV				2209		3				IIIG
			CULG	2259.5	2300.5	2	2259	2301	2	2300.5		1	IIIG
			CULG				2304	2307	1				IIIGG
			CULG				2329.5	2332	3				IIIG
			LEAR				2329.7	2333.0	2				CONT
			PALE				2329.7	2333.0	1				CONT

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DAY	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
12			CULG	2344		2	2344		1				IIIB
			LEAR				2345.6	2345.7	1				III
			LEAR				2350.3	2350.9	2				V
			CULG				2350.5		2				IIIB
			LEAR				2352.0	1010.0	1				B
13	0000	0718	CULG	0000	0718		0000	0718					IS,W
			CULG				0000	0718					IIIN,W
			CULG				0029	0718	1				IIIN
			LEAR				0029.4	0029.6	1				III
			CULG	0107.5	0108.5	1	0107.5	0108.5	3	0108	0108.5	2	IIIG
			PALE				0107.8	0108.6	2				V
			LEAR				0107.8	0109.1	2				V
			LEAR				0240.5	0240.9	1				V
			CULG				0240.5		2				IIIB
			LEAR				0256.3	0259.5	1				CONT
			CULG				0257.5		2	0257.5		1	IIIB
			CULG	0311.5	0312	1	0311.5	0312	1				IIIG
			LEAR				0311.8	0312.0	1				III
			CULG							0418	0426	1	SWP
			CULG				0418.5	0420	2	0418.5	0420	2	IIIG
			LEAR				0418.6	0420.0	2				CONT
			CULG				0615	0617					N,RS,DP
			LEAR				0616.1	0620.8	3				V
	0614	0655	WEIS				0616.7	0621.3	3				IIIGG/V
			CULG	0617	0620	1	0615.5	0620.5	3	0617	0619	2	IIIGG,V
			CULG	0620.5	0621.5	2	0620.5	0621.5	2				IIIG
			CULG				0623.5	0625	1				IIIGG
			WEIS				0625.3	0627.7	2				IIIG
			CULG				0625.5	0627.5	1				IIIGG
			CULG				0657		1				IIIB,U
	0701	1602	WEIS				0719.3	0720.5	2				IIIG
			LEAR				0720.3	0720.9	2				V
			WEIS				0724.6	0724.9	2				IIIG
	0730	1545	DWIN										
			WEIS				0825.6	0826.0	2				IIIG
			WEIS				0853.2	0853.3	1				IIIG
			WEIS				0854.9	0858.5	2				IIIGG
			WEIS				0953.3	0953.4	2				IIIB
			WEIS				1019.4	1019.5	1				IIIB
			WEIS				1049.6	1050.0	2				IIIG
			WEIS				1102.4	1106.3	1				IIIG
			WEIS				1109.3	1109.4	1				IIIB
			WEIS				1111.4	1113.7	3				IIIGG
			WEIS				1128.0	1128.9	1				IIIG
			WEIS				1139.8	1139.9	1				IIIG
			WEIS				1216.8	1217.3	2				IIIG
			WEIS				1223.7	1223.9	1				IIIB
			WEIS				1251.8	1251.9	2				IIIB
			WEIS				1309.6	1309.8	1				IIIB
	1335	2245	HARV				1345	2245	2				IN
			WEIS				1421.8	1421.9	1				IIIB
			WEIS				1432.6	1433.4	2				IIIG
	1350	1530	BLEN				1432.7	1432.9	1				IIIG
			HARV				1443		2				IIIG
			BLEN				1451.6	1513.5	1				I,DC
			WEIS				1520.7	1520.8	1				IIIB
			HARV				1531	2148	2				IIIN
			WEIS				1531.3	1531.5	2				IIIG
			WEIS				1542.7	1544.2	1				IIIG
			HARV				1548	1549	3				IIIG,U,V
			WEIS				1548.3	1549.5	2				IIIG
			HARV				1557		3				IIIG
			WEIS				1557.1	1557.3	2				IIIG
			HARV				1606		3				IIIG
			HARV				1640		2				IIIG,U
			HARV				1700		3				IIIB
			HARV				1730	1732	3				IIIG
			PALE				1949.8	1953.0	1				CONT
			HARV				1953		2				IIIG

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13			HARV	1956	2002	1	1956	2002	3				IIIGG
			PALE				1957.9	2001.9	2				V
			HARV				2003	2012	3				IIIGG
			PALE				2005.0	2012.1	2				CONT
			CULG	2018	2228	1	2018	2348	1				IS,DC
	2018	2400	CULG				2018	2030					IIIN,W
			CULG				2018.5	2019.5	3				IIIG
			PALE				2018.9	2023.3	2				V
			HARV				2019		3				IIIG
			CULG				2022.5	2023.5	3				IIIG
			HARV				2023		3				IIIG
			CULG				2030	2046	1				IIIS
			HARV				2031	2032	2				IIIGG
			CULG	2031	2036	1							I
			CULG				2031	2032.5	2				IIIG
			PALE				2031.2	2032.7	1				CONT
			CULG				2040.5		2				IIIB
			CULG				2046	2400					IIIN,W
			CULG	2137	2137.5	1	2137	2137.5	1				IIIG
			CULG				2147	2148	2				IIIG
			PALE				2147.8	2148.0	1				III
			PALE				2207.0	2207.6	2				CONT
			CULG	2228	2400								IS,W
			LEAR				2328.1	2329.1	1				CONT
			CULG				2328.5	2329	1				IIIG
			PALE				2328.7	2329.1	1				III
			CULG				2340	2400					IS,W
14	0000	0706	CULG	0000	0532		0000	0055					IS,W
			CULG				0000	0706					IIIN,W
			LEAR				0006.8	0015.2	2				CONT
			PALE				0006.8	0013.0	2				CONT
			CULG	0007	0012	1	0006.5	0013.5	2	0007	0012.5	1	IIIGG
			CULG				0022.5	0024	1				DC
			LEAR				0108.2	0109.5	1				CONT
			PALE				0108.5	0109.2	1				V
			CULG				0108.5	0109.5	1				IIIG
			LEAR				0149.8	1010.0	1				B
			CULG				0215		1				IIIB
			CULG	0229.5	0230	2	0229.5	0230	2				IIIG
			CULG	0231	0231.5	2	0231	0231.5	2				IIIG
			CULG				0311	0706	1	0326.5	0338.5	1	IIIN
			CULG				0322.5	0338.5	2				IIIS
			LEAR				0328.1	0329.2	2				CONT
			LEAR				0333.1	0338.8	3				CONT
			CULG	0337	0338	2	0337	0338.5	3	0337	0338.5	2	IIIGG
			CULG	0532	0706	2							IS,DC
			CULG							0606	0635	2	SWF
			CULG				0616	0646	1				II
			LEAR				0617.2	0622.6	1				II
	0616	1600	WEIS				0619	1559	2				IS
			CULG	0619	0620	1	0619	0621	1				IV
			WEIS				0619.2	0622.4					II HARM
			CULG				0648	0658	1				IIIS
	0648	1530	BLEN				0648 E	0745	1				I,DC
			WEIS				0648.2	0657.4	2				IIIGG
			WEIS				0701.7	0701.9	1				IIIB
			WEIS				0703.2	0703.6	1				IIIG
			WEIS				0707.7	0707.8	1				IIIB
			BLEN				0712.6	0713.0	2				IIIG
			WEIS				0712.7	0716.3	3				IIIGG
			LEAR				0712.7	0714.8	2				CONT
			LEAR				0712.7	1010.0	1				IV
			LEAR				0723.1	0726.4	2				CONT
			WEIS				0724.8	0729.2	3				IIIGG
	0635	1545	DWIN	0727.0	0728.5	1							IIIG
			LEAR				0727.1	0729.6	2				CONT
			BLEN				0727.7	0728.7	2				IIIGG
			BLEN				0755.5	0755.7	1				IIIG
			WEIS				0755.6	0755.7	2				IIIG

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14			BLEN				0917.8	0918.2	1				I,DC
			WEIS				0954.4	0954.6	2				IIIG
			BLEN				1000.2	1000.8	2				IIIG
			WEIS				1003.0	1009.0	3				IIIG
			WEIS				1017.8	1020.4	2				IIIGG
			WEIS				1051.6	1051.7	1				IIIB
			WEIS				1055.2	1057.3	1				IIIG
			WEIS				1059.8	1105.4	1				IIIGG
			WEIS				1108.2	1108.3	1				IIIB
			WEIS				1112.7	1112.8	1				IIIB
			BLEN				1119.8	1120.0	1				I,DC
			WEIS				1123.6	1126.3	3				IIIG
			WEIS				1129.0	1130.4	1				IIIG
			WEIS				1137.6	1138.7	1				IIIG
			WEIS				1158.3	1158.9	2				IIIG
			BLEN				1158.3	1209.3	1				IIIG
			WEIS				1206.9	1209.5	3				IIIGG
			WEIS				1211.6	1212.9	1				IIIG
			WEIS				1221.1	1221.2	1				IIIB
			WEIS				1227.2	1227.2	1				IIIB
			WEIS				1230.5	1230.7	1				IIIG
			WEIS				1252.5	1252.9	2				IIIG
			BLEN				1302.7	1302.9	1				IIIG
			BLEN				1327.3	1327.6	1				IIIG
			WEIS				1327.4	1328.6	2				IIIG
	1334	2245	HARV				1334	1710	2				I
			HARV				1335	1440	2				I
			WEIS				1352.3	1352.6	1				IIIG
			HARV				1401	2148	2				IIIN
			WEIS				1404.4	1404.6	2				IIIB
			HARV	1426	1620	1							INW
			WEIS				1428.2	1428.3	1				IIIB
			WEIS				1449.2	1449.3	1				IIIB
			HARV				1453		2				IIIG
			HARV				1504		2				IIIG
			WEIS				1555.2	1556.3	1				IIIG
			HARV	1610		1	1610		3				IIIG
			HARV				1733	1734	3				IIIG
			PALE				1733.5	1733.7	2				III
			HARV	1800	1920	1	1710	1920	3				I
			HARV	1800	2245	1							INW
			HARV				1838		3				IIIG
			HARV				1847		3				IIIG
			HARV	1920	2245	1	1920	2245	2				I
			PALE				1950.0	1950.2	1				III
	2052	2400	CULG										
			CULG				2052	2400					IIIN,W
			CULG	2052	2400	1	2052	2220	1				IS,DC
			CULG	2054		1							IIIB
			CULG				2146.5		1				IIIB
			CULG	2153.5	2154.5	2	2154		1				IIIG
			HARV	2154		2	2154		3				IIIG
			HARV	2157		3	2157		3				IIIG
			CULG	2157	2157.5	2							IIIG
			CULG				2220	2335					IS,W
15	0000	0718	CULG	0000	0159								IS,W
			CULG				0015.5	0019.5	1				IIIGG
			LEAR				0015.9	0036.2	1				S
			LEAR				0017.4	0018.0	2				CONT
			PALE				0017.5	0017.7	2				III
			CULG				0017.5		2				IIIB,V
			CULG				0026	0508					IIIN,W
			CULG	0035.5	0036	1	0035.5		1				IIIG
			CULG				0131	0648	1				IIIN
			LEAR				0131.0	0131.2	1				III
			CULG	0159	0718	1							IS
			CULG				0235	0510					IN,W
			LEAR				0236.0	0241.1	2				CONT
			CULG	0236.5	0238.5	1	0236	0239	1	0237	0238	2	IIIGG

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15			CULG				0236.5	0237	2				IIIG
			PALE				0236.9	0237.1	1				III
			CULG				0240	0241	1	0240.5	0241	1	IIIG
			LEAR				0242.8	0243.1	1				III
			LEAR				0314.9	0315.3	1				V
			CULG				0321	0323	1	0321.5	0322.5	1	IIIG
			LEAR				0321.5	0323.5	2				V
			LEAR				0341.9	0343.4	2				V
			CULG	0342	0342.5	2	0342	0343.5	2				IIIGG
			LEAR				0418.5	0422.4	1				CONT
			CULG							0420	0421		IIIG,W
			CULG	0420.5	0421.5	1	0419	0422.5	1				IIIGG
			CULG				0508	0555					IIIS,W
			CULG	0509.5	0514								N,DCIM
			CULG				0510	0718					IS,W
			LEAR				0513.3	0730.0	1				B
			CULG				0514	0542				IV	W
			CULG				0515	0520					N,DP,W
			CULG				0519.5	0549	2			II	
			LEAR				0522.6	0530.8	2				CONT
			CULG	0554	0554.5	3	0554	0554.5	1				IIIG
			CULG				0555	0718					IIIN,W
			CULG	0555.5	0556	2	0555.5		1				IIIG
	0617	0627	WEIS										
			WEIS				0625.5	0625.7	2				IIIG
			WEIS				0634.9	0635.3	2				IIIG
	0635	1550	DWIN										
	0629	1558	WEIS				0636	1558	3				IS,DC
			WEIS				0647.4	0647.7	2				IIIG
	0650	1530	BLEN				0650 E	1530 D	1				I,DC
			WEIS				0713.7	0713.8	1				IIIB
			WEIS				0721.4	0721.5	1				IIIB
			WEIS				0909.9	0911.2	1				IIIG
			WEIS				0943.9	0944.1	1				IIIB
			WEIS				1114.0	1548.3	1				IIIN
			WEIS				1141.6	1143.0	2				IIIG
	1335	2245	HARV	1335	2245	1							INW
			HARV				1404	2239	2				IIIN
			HARV				1440	1800	3				I
			PALE				1645.0	0142.5	1				B
			HARV				1800	2245	2				I
			PALE				1837.7	1839.1	2				III
			HARV				1839		3				IIIG,V
			HARV				1846		3				IIIG
			HARV				1918	1920	2				IIIG
			PALE				1930.1	1934.6	3				CONT
			HARV	1934		1	1930	1934	3				IIIGG
			HARV				2021		2				IIIG
			HARV				2035		3				IIIG
			CULG	2052	2400	1							IS,DC
	2052	2400	CULG				2052	2255	2				IS,C,DC
			CULG				2136.5		2				IIIB
			CULG				2137	2400					IIIN,W
			CULG				2152.5		2				IIIB
			CULG				2219.5		1				IIIB
			CULG	2219.5	2222	2							IIIG,N
			HARV	2220		1	2219	2220	3				IIIG
			CULG				2239		1				IIIB
			LEAR				2239.1	2239.5	1				V
			CULG				2255	2400	1				IS,DC
			CULG				2256	2257.5	2				RS,DC
16	0000	0718	CULG				0000	0220					IS,W
			CULG				0000	0718					IIIN,W
			CULG	0000	0718	1							IS,DC
			CULG				0023	0024	1				IIIG
			LEAR				0023.7	0024.9	1				CONT
			LEAR				0046.8	0047.9	1				CONT
			LEAR				0056.4	0057.0	1				CONT
			LEAR				0111.9	0113.1	1				CONT

SOLAR RADIO EMISSION
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DAY	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
16			LEAR				0130.3	0131.4	1				CONT
			CULG				0220	0252	1				IS,DC
			CULG				0226		1				IIIG
			LEAR				0226.2	0226.6	1				V
			CULG				0252	0653					IS,W
			LEAR				0311.5	0355.2	1				S
			CULG	0344.5	0635	1	0344.5	0633	1				IIIN
			LEAR				0420.9	0459.2	1				S
			CULG	0430.5	0431	2							IIIG
			CULG	0447.5		2	0447.5		1				IIIB
			CULG	0453.5	0454	2	0453.5	0454.5	2				IIIG
			CULG	0456.5	0457	2	0456.5		2				IIIG
			LEAR				0456.8	0456.9	2				III
			CULG	0505.5	0506	2	0505.5	0506	1				IIIG
			CULG				0556.5		2				IIIB,U
			CULG				0558.5	0559	2				IIIG
			LEAR				0558.6	0602.8	2				CONT
			CULG				0600.5	0603	2				IIIGG
			LEAR				0610.0	0642.0	1				S
	0620	1555	WEIS				0623	1555	2				IS,DC
	0650	1530	BLEN				0650 E	1530 D	1				I,DC
			CULG				0653	0718	1				IS
			CULG				0711.5	0712	3				IIIG
			BLEN				0711.6	0714.4	2				IIIG
			WEIS				0711.6	0712.0	3				IIIG
			LEAR				0711.7	0712.0	2				CONT
			CULG	0714	0714.5	2							IIIG
			WEIS				0714.3	0714.4	2				IIIG
	0725	1600	DWIN	0725	1600	1							I
			WEIS				0752.5	0752.7	1				IIIB
			WEIS				0839.3	0844.4	3				IIIGG
			LEAR				0839.4	0844.0	1				CONT
			BLEN				0840.7	0844.3	1				IIIG
			WEIS				0922.3	0925.0	2				IIIG
			BLEN				0922.4	0924.8	1				IIIG
			WEIS				1005.3	1006.5	3				IIIG
			WEIS				1041.4	1041.7	1				IIIG
			WEIS				1052.1	1052.2	1				IIIB
			WEIS				1154.7	1155.1	2				IIIG
			WEIS				1212.0	1212.1	1				IIIB
			DWIN	1255.0	1255.4	1							IIIG
			WEIS				1315.4	1319.2	3				IIIGG
			BLEN				1319.7	1319.8	1				IIIB
	1335	2245	HARV				1335	1547	1				IN
			WEIS				1336.4	1337.3	2				IIIG
			HARV				1337	1338	3				IIIG
			BLEN				1337.4	1338.3	2				IIIB
			HARV	1348	2100	1							INW
			DWIN	1357.1		1							IIIB
			HARV				1437	2235	1				IIIN
			HARV				1547	1620	3				I
			HARV				1607	1610	3				IIIG
			HARV				1620	1820	1				IN
			HARV				1729	1730	2				IIIG
			HARV				1732	1733	2				IIIG
			HARV				1805		3				IIIG
			HARV				1820	2245	2				I
			HARV				1915	1921	3				IIIGG
			HARV	2014	2017	3	2013	2017	3				IIIGG,V
			PALE				2014.4	2015.7	2				V
			HARV	2053		3	2053		3				IIIG
	2054	2400	CULG				2054	2310					IIIS,W
			CULG				2054	2330	1				IIIN
			CULG				2054	2400					IS,W
			CULG	2054	2400	1							IS,DC
			PALE				2054.6	2054.8	1				III
			CULG	2102	2102.5	2	2102	2103.5	2				IIIG,V
			HARV				2102	2103	3				IIIGG
			HARV	2107		2	2107	2108	3				IIIG
			CULG	2107	2108	2	2107.5	2108	1				IIIGG

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DAY	TIMES OF OBSERVATION START UT	TIMES OF OBSERVATION END UT	STATION	EVENTS: DECIMETRIC BAND START UT	DECIMETRIC BAND END UT	DECIMETRIC BAND INT	METRIC BAND START UT	METRIC BAND END UT	METRIC BAND INT	DEKAMETRIC BAND START UT	DEKAMETRIC BAND END UT	DEKAMETRIC BAND INT	SPECTRAL TYPE
16			CULG				2136.5		2				IIIB
			PALE				2136.6	2138.0	1				CONT
			CULG				2221	2222.5	2				IIIGG
			HARV				2221	2223	2				IIIGG
			LEAR				2221.5	2222.4	1				CONT
			LEAR				2249.7	2249.8	1				III
			CULG				2310	2400					IIIN,W
			CULG				2311		1				RS,DP
			CULG				2311	2312	2				IIIG,V
			LEAR				2311.0	2312.1	1				V
			CULG				2314	2314.5	2				IIIG
			LEAR				2314.2	2315.0	2				V
			LEAR				2328.4	2329.6	1				V
			CULG				2328.5	2329.5	2				IIIG
			LEAR				2353.1	2353.3	1				III
17	0000	0717	CULG	0000	0058	1							IS,DC
			CULG				0000	0717					IS,W
			CULG				0005.5		1				IIIB
			CULG				0014	0215					IIIN,W
			CULG				0053	0054	1				IIIG
			CULG	0058	0135								IS,W
			LEAR				0122.0	1011.0	1				B
			CULG	0135	0717								IN,W
			CULG				0139.5	0140	2				IIIG
			CULG				0204	0707	1				IIIN
			CULG				0215	0228	1				IIIS
			CULG				0228	0717					IIIS,W
			CULG				0514	0514.5	2				IIIG
	0620	0651	WEIS				0630	1548					IIIN
	0640	1445	DWIN										
	0655	1530	BLEN				0727.7	0727.8	1				IIIB
			WEIS				0745.0	1428	1				IN,DC
	0655	1554	WEIS				0848.9	0839.5	2				IIIG
			BLEN				0848.9	0849.2	1				IIIG
			WEIS				1003.1	1003.4	2				IIIG
			BLEN				1018	1250	1				I,DC
			BLEN				1111.6	1111.7	1				IIIG
			BLEN				1139.6	1140.9	1				IIIGG
			WEIS				1139.7	1142.1	2				IIIGG
			WEIS				1156.4	1156.6	2				IIIG
			BLEN				1156.4	1202.3	2				IIIG
			WEIS				1200.0	1202.5	3				IIIGG
	1335	2245	HARV				1335	1555	1				IN
			WEIS				1354.3	1354.6	1				U
			HARV				1429	2218	2				IIIN
			HARV	1703		3	1703	1709	3				IIIGG
			HARV				1724	1836	1				INW
			HARV				1730		3				IIIG
			HARV				1819		2				IIIG
			HARV				1847	1852	2				IIIG
			PALE				1848.3	1849.2	1				V
			HARV				2001		2				IIIG
			HARV	2003		1							IIIGW
			HARV	2005	2006	2	2005	2006	3				IIIG
			PALE				2005.0	2007.1	2				V
			HARV				2043	2208	1				IN
			HARV				2044	2046	3				IIIG
	2054	2400	CULG	2054	2220								IS,W
			CULG				2056	2400					IIIS,W
			CULG				2121	2316	1				IIIN
			CULG				2151	2207	1				IS
			CULG	2220	2400		2207	2400					IN,W
			CULG	2231	2231.5	1	2231	2232	2	2231	2232	1	IIIG
			HARV	2231		1	2231	2232	3				IIIG
			LEAR				2231.2	2231.6	1				CONT
			LEAR				2315.8	2316.2	1				V
			LEAR				2344.0	1012.0	1				B
			CULG	2353	2353.5	2	2353	2353.5	1				IIIG
			CULG				0000	0717					IIIS,W

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				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
18	0000	0717	CULG	0000	0717		0000	0717					IN,W
			CULG				0022	0717	1				IIIN
			CULG				0134	0717					N,RS,DP
			CULG	0423	0425	1							IIIGG
			LEAR				0443.3	0445.0	2				CONT
			CULG				0444	0445	2				IIIG
			CULG	0513	0513.5	1							IIIG
	0622	1551	WEIS				0638	1501	2				IIIN
			CULG	0713.5	0714	1							IIIG
	0658	1528	BLEN				0713.7	0713.9	1				IIIG
			WEIS				0713.7	0714.1	2				IIIG
			WEIS				0731.8	0734.1	2				IIIGG
			BLEN				0732.5	0732.6	2				IIIB
			BLEN				0850.9	0855.7	2				IIIG
			WEIS				0850.9	0851.2	3				IIIG
			BLEN	0855.8	0856.3	1							UNCLF
			BLEN	0929.9	0930.2	2	0929.6	0932.6	2				IIIG
			BLEN	1043.9	1044.6	1	1043.9	1044.6	1				IIIG
			BLEN				1104.9	1105.0	1				IIIG
	0640	1545	DWIN	1151.0	1151.1	1							IIIG
			BLEN				1211.4	1211.5	1				IIIB
	1335	2250	HARV				1338	2136	2				IIIN
			HARV	1453		1	1453		3				IIIG
			WEIS				1453.2	1453.4	2				IIIG
			BLEN	1453.3	1453.4	1	1453.3	1500.3	1				IIIG
			HARV				1602		2				IIIB
			HARV				1627	1629	2				IIIG
			HARV	1821		1	1820	1821	3				IIIG
			HARV				1901		3				IIIG
			HARV	1949	1950	1	1949	1950	3				IIIG
			HARV				2049	2250	1				IN
			CULG				2057	2400					IS,C,W
	2057	2400	CULG	2057	2147								IS,W
			CULG				2059	2400					IIIS,W
			CULG	2102	2102.5	1							DCIM
			CULG				2106	2400	1				IIIN
			CULG	2128.5	2130	2	2129	2130	2				IIIG,V
			HARV	2129	2130	1	2129	2133	3				IIIGG,V
			CULG	2130	2136	1							IIIN
			CULG				2136	2140					POSS II,W
			CULG	2211	2211.5	1							IIIG
			HARV				2247	2248	3				IIIG
			CULG				2247		1	2247		1	IIIB
			CULG	2247.5	2248	2	2247.5	2248.5	2	2247.5	2248	1	IIIG
			LEAR				2247.5	2248.3	1				CONT
			CULG							2311	2311.5	1	IIIG
			CULG							2330	2400	1	IIIS
			CULG	2345.5	2346	1	2345.5	2346	1				IIIG
			PALE				2347.3	2351.6	2				CONT
			CULG				2347.5		1	2347.5		1	IIIB
			CULG							2349.5		1	IIIB
			CULG				2351	2351.5	2				IIIG
			LEAR				2351.2	2351.9	2				CONT
19			CULG				0000	0717					IS,W
			CULG							0000	0400	1	IIIS
	0000	0717	CULG				0000	0122					IIIS,W
			CULG				0001			0001			DP,W
			LEAR				0024.0	0351.0	1				B
			CULG	0046	0048	2	0046.5	0048	2				IIIG
			CULG							0047	0345		IIIN,W
			CULG				0119	0710					N,RS,DP
			CULG				0122	0132	1				IIIS
			PALE				0122.0	0348.0	1				B
			CULG	0125	0618	1							IIIN
			CULG				0132	0717					IIIS,W
			CULG				0141		1				IIIB
			CULG	0211.5	0212	2	0211.5	0212	1				IIIG
	0624	1550	WEIS				0638.9	0639.9	1				IIIG
			LEAR				0639.5	0640.1	1				CONT

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19	0640	1540	DWIN										
			LEAR				0709.8	0725.1	1				S
			WEIS				0720.4	0720.5	1				IIIB
			WEIS				0724.6	0725.1	2				IIIG
			WEIS				0726.6	0726.7	1				IIIB
			WEIS				0727.9	0728.1	1				IIIB
			WEIS				0800.4	0801.6	1				IIIG
			WEIS				0836.7	0836.8	2				RS
	0658	1525	BLEN				0836.7	0836.8	2				IIIB,RS
			WEIS				0838.6	0838.9	1				IIIG
			WEIS				0922.4	0922.5	1				IIIB
			WEIS				0956.3	0956.4	1				IIIB
			WEIS				1223.9	1225.3	2				IIIG
			WEIS				1306.2	1306.4	2				IIIG
			WEIS				1327.6	1327.9	2				IIIG
	1335	2245	HARV				1336	1520	2				I
			WEIS				1340.1	1340.2	1				IIIB
			WEIS				1426.7	1426.8	1				IIIB
			BLEN				1441	1446	1				I,DC
			HARV				1520	1755	1				IN
			HARV				1553		3				IIIG
			HARV				1845	1846	2				IIIG
			CULG				2017	2400					IIIN,W
	2017	2400	CULG				2017	2400					IS,C,W
			HARV				2017		1				IIIG
			HARV				2117	2245	1				INW
			CULG				2150	2151.5	1				IIIG,V
			CULG	2150	2400								IN,W
			PALE				2150.6	2152.2	1				V
			CULG	2151.5		1	2151.5		1				IIIB
			HARV	2152		1	2152		3				IIIG
			CULG				2244	2244.5	1				IIIG,U
			HARV				2244	2245	3				IIIG,U
			CULG				2315	2340	1				N,DC
20	0000	0717	CULG				0000	0717					IS,W
			CULG				0022	0717					IIIN,W
			CULG				0115.5		1				IIIB
			LEAR				0115.8	0116.1	1				CONT
			CULG	0139	0315								IN,W
			LEAR				0517.5	0518.3	1				CONT
			CULG				0534	0540	1			II	
			LEAR				0534.6	0542.6	1				CONT
			LEAR				0704.5	0708.2	1				CONT
			CULG				0705.5	0706.5	1				UNCLF
			LEAR				0756.5	0758.9	1				CONT
	0625	0854	WEIS				0828.4	0828.6	2				IIIG
			LEAR				0908.8	0909.7	1				CONT
	0700	1326	BLEN				0924.2	0924.4	2				IIIG
			LEAR				0924.3	0924.6	2				V
			BLEN	1115.0	1115.2	2							DCIM
	0940	1548	WEIS				1119.8	1120.0	1				IIIB
			WEIS				1127.9	1129.3	3				IIIG
			WEIS				1324.1	1328.8	1				IIIGG
	1335	2247	HARV				1338	1339	1				I
			HARV				1351	2239	2				IIIN
			WEIS				1412.7	1414.3	2				IIIG
			HARV	1414		1	1414		3				IIIG
			WEIS				1441.4	1456.9	2				IIIGG
			HARV	1453	2132	2							IIIN
	0725	1540	DWIN	1508.0	1510.5	1						IV	
			WEIS				1511.6	1512.6	2				IIIG
			HARV				1746		3	1746		2	IIIG
			HARV				1849	1850	2				IIIG
			HARV	1956	2003	1	1956	2003	3				IIIG
			PALE				2005.4	2005.9	1				V
	2017	2400	CULG				2019	2400					IIIN,W
			CULG	2024	2400	1	2043	2400	1				IIIN
			CULG				2051	2400					IS,C,W
			CULG				2055	2055.5	3				IIIG

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20			PALE				2055.1	2055.3	1				III
			CULG				2056.5	2057	2				IIIB
			HARV				2106	2109	1				I
			HARV	2157	2200	3	2157	2200	3				IIIGG
			CULG	2158.5	2159	2	2158.5	2159	2				IIIG
			HARV	2247		2	2247		3				IIIG
			CULG				2301		1	2301		1	IIIB
			LEAR				2301.8	2302.1	1				CONT
			CULG	2327	2327.5	2							IIIG
			CULG	2349.5	2350	2	2349.5	2350	2				IIIG
			LEAR				2350.3	0004.1	1				S
			CULG	2353	2353.5	1	2353	2353.5	2				IIIG
21	0000	0354	CULG				0000	0121					IS,C,W
			CULG				0000	0717					IIIN,W
			CULG				0003	0635	1				IIIN
			CULG	0020	0021	1							I
			CULG	0053.5	0055.5	2	0053.5	0055.5	2				IIIG
			CULG	0054	0717	1							IIIN
			LEAR				0105.1	0154.4	1				S
			LEAR				0219.9	0222.4	2				CONT
			CULG				0220		1	0220		1	IIIB
			CULG				0227		2				IIIB,U
			LEAR				0238.5	0239.0	1				CONT
			CULG				0251		2	0251		1	IIIB
			LEAR				0251.1	0251.5	2				V
			LEAR				0402.0	0404.1	2				CONT
	0402	0717	CULG				0403.5	0404	1	0403.5	0404	1	IIIG
			LEAR				0411.5	0412.0	1				CONT
			CULG				0434.5	0447	2				II
			LEAR				0435.3	0449.1	1				II
			LEAR				0454.8	0455.2	1				V
			CULG	0527	0535								IN,W
			LEAR				0527.4	0527.8	1				V
			CULG	0544.5	0545	2	0544.5	0545	3	0544.5	0545	2	IIIB
			LEAR				0544.6	0545.2	2				V
			LEAR				0549.9	0555.3	2				CONT
			CULG				0550	0550.5	1	0550	0550.5	1	IIIG
	0627	0817	WEIS				0629.9	0630.6	2				IIIG
			LEAR				0629.9	0636.7	2				CONT
			CULG	0630	0630.5	2	0630	0630.5	2				IIIG
			CULG				0711	0711.5	2				IIIB
			WEIS				0711.4	0711.6	1				IIIB
			LEAR				0711.4	0720.8	2				CONT
			WEIS				0716.9	0717.2	2				IIIB
			WEIS				0719.4	0720.7	2				IIIG
			WEIS				0738.6	0738.7	2				IIIB
	0821	1546	WEIS				0828.9	0829.4	2				IIIG
			LEAR				0829.2	0830.2	1				V
			WEIS				0836.4	0836.8	1				IIIG
			WEIS				0843.1	0844.7	1				IIIG
			LEAR				0843.9	0844.5	1				CONT
			LEAR				0903.7	0904.2	2				V
			WEIS				0903.9	0904.1	2				IIIB
			WEIS				0914.8	0918.3	3				IIIGG
			LEAR				0915.0	1013.0	2				S
	0901	1524	BLEN				0917.3	0917.8	1				IIIG
			WEIS				1009.6	1009.9	2				IIIGG
			WEIS				1033.5	1034.0	2				IIIG
			WEIS				1049.0	1049.2	1				IIIB
	0645	1540	DWIN	1116.5	1116.7	1							IIIG
			BLEN				1144.1	1144.4	1				IIIG
			WEIS				1144.2	1144.4	2				IIIGG,RS
			WEIS				1149.6	1149.7	1				IIIB
			WEIS				1201.7	1203.9	1				IIIG
			BLEN				1203.8	1203.9	1				IIIG
			WEIS				1216.6	1217.2	1				IIIG
			BLEN				1229.6	1254.7	2				IIIGG
			WEIS				1236.7	1237.0	2				IIIG
			WEIS				1241.2	1243.4	3				IIIGG

SOLAR RADIO EMISSION
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DAY	TIMES OF OBSERVATION START UT	TIMES OF OBSERVATION END UT	STATION	EVENTS: DECIMETRIC BAND START UT	DECIMETRIC BAND END UT	DECIMETRIC BAND INT	METRIC BAND START UT	METRIC BAND END UT	METRIC BAND INT	DEKAMETRIC BAND START UT	DEKAMETRIC BAND END UT	DEKAMETRIC BAND INT	SPECTRAL TYPE
21			WEIS				1246.2	1247.3	3				IIIG
			SGMR				1246.5	1246.9	1				III
			WEIS				1249.6	1250.2	2				IIIG
			WEIS				1254.4	1254.7	1				IIIG
			WEIS				1311.4	1311.8	2				IIIG
			BLEN				1311.7	1311.8	1				IIIB
			WEIS				1317.7	1318.2	2				IIIG
			WEIS				1335.7	1336.8	2				IIIG
	1335	2245	HARV				1336	2140	2				IIIN
			WEIS				1346.9	1347.3	2				IIIG
			BLEN				1347.1	1347.2	1				IIIB
			BLEN				1402.9	1410.7	2				IIIG
			WEIS				1402.9	1403.0	3				IIIB
			HARV				1403	1411	3				IIIGG
			WEIS				1405.3	1405.6	1				IIIG
			WEIS				1407.5	1408.2	3				IIIG
			SGMR				1407.7	1408.0	1				III
			WEIS				1410.7	1410.8	2				IIIG
			HARV				1431		3				IIIG
			SGMR				1431.0	1431.5	2				III
			WEIS				1431.1	1431.8	3				IIIG
			BLEN				1431.1	1431.4	2				IIIG
			HARV				1446	1540	1				IN
			WEIS				1454.7	1455.9	3				IIIG
			BLEN				1454.9	1455.9	1				IIIG
			HARV				1455	1456	3				IIIG
			WEIS				1510.2	1510.3	2				IIIB
			WEIS				1515.7	1516.4	1				IIIG
			HARV				1525	1526	3				IIIG
			WEIS				1525.3	1526.4	3				IIIG
			WEIS				1534.6	1534.7	1				IIIG
			HARV	1535	1536	1	1535	1536	2				IIIG
			HARV				1603	1604	3				IIIG
			HARV				1626	1627	2				IIIG,U
			HARV	1731	1732	1	1731	1733	2				IIIG
			HARV				1800	1801	2	1800	1801	1	IIIG
			HARV				1824	1826	2	1824	1826	2	IIIG
			PALE				1824.2	1826.1	1				CONT
			HARV				1834	2240	1				INW
			HARV				1843	1856	1				IIIN
			HARV	1902	1903	2							IIIG
			HARV	1905		1	1905		1	1905		1	IIIG
	2016	2400	CULG				2016	2400					IIIS,W
			CULG	2045.5	2046	1	2045.5	2046	1				IIIG,U
			HARV	2046		1	2046		2				IIIG
			CULG				2048	2400	1				IIIN
			CULG	2104.5	2105								IIIG,W
			CULG				2109		2				IIIB
			PALE				2109.0	2109.2	1				III
			CULG				2117	2400					IN,W
			SGMR				2118.3	2119.7	2				CONT
			CULG	2155	2155.5								I
			HARV	2155		2							IIIG
			HARV	2159		2	2159		2				IIIG
			CULG	2247.5	2248								IIIG,W
			CULG	2322	2322.5	1	2322	2322.5	1				IIIG
			CULG	2353	2353.5	1							IIIG
			CULG				2355	2355.5	2	2355	2355.5	2	IIIG
			PALE				2355.1	2355.5	1				V
22	0000	0717	CULG				0000	0319					IIIS,W
			CULG	0015	0017	1	0015	0017	3	0015	0016.5	2	IIIGG,U
			LEAR				0015.0	0017.0	2				V
			PALE				0015.1	0017.0	2				V
			CULG				0035.5		1	0035.5		1	IIIB
			CULG	0113	0113.5								I,W
			CULG				0122	0126	1				SLOW DRIFT
			CULG				0144	0145	1				IIIG
			CULG	0150.5	0151.5	1	0150.5	0151.5	2	0150.5	0151.5	1	IIIG
			PALE				0150.8	0151.0	1				III

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DAY	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
22			CULG	0225	0225.5	1	0225	0225.5	2	0225	0225.5	1	IIIG
			LEAR				0225.2	0225.8	2				V
			CULG				0305	0350.5	1				IS
			CULG				0319	0334	2				IIIS
			CULG				0334	0717					IIIS,W
			CULG				0355	0717	1				IIIN
			CULG				0403.5	0404.5	2				IIIG
			CULG	0421	0421.5	1	0421	0422	3	0421.5	0422	2	IIIG,V,U
			CULG				0459.5		2				IIIB
			CULG	0509	0717								IN,W
			CULG				0553.5	0554.5	2				IIIG
	0630	1538	WEIS				0638	1532	1				IIIN
			CULG				0648		2				IIIB
			CULG				0655.5		2				IIIB
	0700	1532	BLEN				0756.9	0800.7	1				IIIG
			WEIS				0757.7	0800.3	2				IIIG
			WEIS				0947.6	0948.5	3				IIIG
			BLEN				0948.1	0948.3	1				IIIG
			WEIS				1010.3	1011.6	2				IIIGG
			WEIS				1044.0	1044.3	1				IIIB
			WEIS				1115.7	1116.1	2				IIIG
			BLEN				1115.8	1116.0	1				IIIG
	1335	2245	HARV				1339	1800	1				IN
			HARV				1340	1341	3				IIIG
			BLEN				1340.3	1341.2	2				IIIG
			HARV				1405	1408	3				IIIGG
			BLEN				1405.4	1405.6	1				IIIG
			BLEN				1420.2	1421.3	1				IIIG
			HARV	1421		1	1417	1425	3				IIIGG
			HARV	1448		2	1448	1451	3				IIIG
			BLEN				1448.0	1455.5	2				IIIGG,RS
			HARV	1455	1456	1	1455	1456	3				IIIG
			HARV				1504	2152	2				IIIN
			HARV	1509	1510	1	1506	1511	3				IIIGG
			BLEN				1509.7	1510.2	2				IIIG
	0725	1545	DWIN	1529.0	1541.0	2						IV	
			HARV	1530	1542	3	1528	1542	3	1530	1533	2	IIIGG
			BLEN				1530.1	1531.4	2				IIIG
			HARV				1621	1629	3	1622	1629	2	IIIGG
			HARV				1737		1	1737		1	IIIB
			HARV				1745	1748	3				IIIG
			HARV	1809	2147	1							IIINW
			HARV				1902	1903	1	1902	1903	1	IIIG
			PALE				1915.9	1918.5	2				CONT
			HARV				1916	1918	3	1916	1918	3	IIIG
			HARV				2007	2245	1				IN
			PALE				2012.4	2013.2	1				III
			CULG				2016	2400					IS,W
	2016	2400	CULG				2016	2025	1				IIIS
			PALE				2022.5	2024.6	1				CONT
			CULG				2025	2400					IIIS,W
			CULG				2031	2400	1				IIIN
			CULG	2031	2346								IN,W
			CULG				2049	2049.5	2				IIIG
			HARV				2113		3				IIIG
			CULG	2146.5	2147	1	2146.5	2147	1				IIIG
			HARV	2237	2238	1	2237	2238	2				IIIG
			LEAR				2237.0	1013.0	2				B
			PALE				2237.3	2238.1	2				V
			LEAR				2237.3	2242.0	2				CONT
			CULG	2237.5	2238	1	2237	2238	3	2237	2238	1	IIIGG
			CULG				2239.5		2				IIIB
			LEAR				2302.0	2358.0	1				B
			CULG	2312									IIIB,W
			CULG				2358	2400	1				IIIGG,U
			LEAR				2358.4	0021.0	2			IV	
			PALE				2358.6	2359.9	1				CONT
23			CULG	0000	0053	2							IV,P
			CULG				0000	0330					IS,W

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DAY	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
23	0000	0716	CULG				0000	0020	2	0001	0015	1	IIIS
			CULG	0000	0716								IN,W
			LEAR				0001.0	0009.0	2				CONT
			PALE				0001.1	0101.1	1				S
			CULG				0003	0209	1			IV	
			CULG				0004	0010					POSS II
			CULG							0005	0025		SWF,W
			LEAR				0009.0	0146.0	1			IV	
			LEAR				0014.8	0016.0	2				CONT
			CULG				0020	0716					IIIS,W
			LEAR				0021.0	0110.0	2				B
			CULG				0043	0716	1				IIIN
			CULG	0049	0050.5	1							IIIG
			PALE				0101.1	0345.0	1				B
			LEAR				0110.1	1014.0	1				B
			CULG	0126.5	0127.5	1	0127	0128	2	0127	0128	2	IIIG,V
			LEAR				0127.0	0128.1	2				V
			CULG	0134	0200	3							IIIS
			CULG				0142	0142.5	1	0142		1	IIIG
			LEAR				0328.5	0339.7	2				S
			CULG				0330	0350	2				IS
			CULG				0331.5	0339	2				IIIS
			CULG	0333	0336	1							IIIG
			CULG				0350	0716					IS,W
			CULG				0405	0405.5	2	0405	0405.5	2	IIIB
			LEAR				0405.8	0406.5	2				V
			CULG				0431	0447	2				IS
			LEAR				0431.0	0445.0	2				B
			CULG	0439	0453	2	0431	0447	2				IIIS
			CULG	0539	0542	2							IIIGG
			CULG				0601.5		2				IIIB
			CULG				0632.5	0633	2				IIIG
	0630	0941	WEIS				0653	1541	1				IIIN
			LEAR				0717.3	0718.5	3				CONT
	0700	1525	BLEN				0717.3	0717.6	2				IIIG
	0945	1542	WEIS				0717.4	0717.7	3				IIIG
	0650	1600	DWIN	0730	0752	2						IV	F
			WEIS				0731.8	0749.8	3				IIIGG,DCIM
			BLEN				0732.1	0742.6	2				IIIGG
			LEAR				0734.0	0737.7	3				CONT
			BLEN				0735.5	0749.4	2			IV	P
			LEAR				0737.8	0743.5	3				CONT
			LEAR				0745.5	0750.0	2				CONT
			LEAR				0750.0	0820.0	1			IV	
			LEAR				0821.6	0822.0	2				CONT
			WEIS				0821.6	0821.9	3				IIIG
			BLEN				0918.4	0932.3	1				IIIGG
			WEIS				0927.7	0928.0	2				IIIG
			WEIS				0929.7	0930.3	3				IIIGG
			LEAR				0930.1	0930.3	2				CONT
			BLEN				1023.6	1023.8	1				IIIG
			WEIS				1023.7	1024.0	2				IIIG
			WEIS				1032.4	1045.4	3				IIIGG,DCIM
			DWIN	1042.8	1055	2						IV	
			BLEN	1043.2	1044.4	1							DCIM
			DWIN	1219.0	1220.0	1						IV	
			BLEN	1219.1	1221.3	1							DCIM
			WEIS				1219.3	1229.8	3				IIIGG,DCIM
			DWIN	1221.0	1230.0	2						IV	P
			BLEN	1225.6	1226.9	2	1225.6	1227.3	2				IIIGG
	1335	2245	HARV				1337	2245	1				IN
			HARV				1418	2242	2				IIIN
			BLEN	1441.8	1442.4	1							DCIM
			HARV	1442	2035	2							IIIN
			DWIN	1458.4	1503.0	1						IV	
			WEIS				1459.6	1502.8	3				IIIGG
			HARV	1500	1501	1	1500	1501	2	1500	1501	2	IIIG
			HARV	1549	1558	3	1549	1603	2	1603		1	IIIGG
			DWIN	1549.8	1558.5	2						IV	
			HARV				1707		2	1707		2	IIIG

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23			HARV				1754	1755	2	1754	1755	1	IIIB
			HARV							1805	2035	2	IIIN
			HARV				1824		3	1824		3	IIIG
			PALE				1824.1	1824.3	1				III
	2016	2400	CULG				2016	2327	2				IIIN
			CULG				2016	2400	1	2034	2054	1	IIIS
			CULG	2016	2400		2016	2400					IS,W
			CULG	2035	2035.5	2	2035	2036	2	2035	2036	2	IIIGG
			CULG				2125.5	2126.5	2	2125.5	2126	1	IIIG
			CULG							2223	2330	1	IIIN
			LEAR				2229.0	1014.0	2				B
24	0000	0716	CULG				0000	0450					IIIS,W
			CULG				0000	0450	1	0000	0716	1	IIIN
			CULG	0000	0716		0000	0716					IS,W
			LEAR				0029.0	0032.3	2				CONT
			PALE				0029.9	0032.0	1				CONT
			CULG	0030	0032	2	0028.5	0032.5	2	0029.5	0032.5	2	IIIGG
			CULG							0116.5	0117.5	2	IIIG
			CULG				0134.5	0716	1				N,RS,DP
			CULG				0134.5		2	0134.5		1	IIIB
			CULG				0450	0716	2				IIIN
			CULG				0450	0716	1				IIIS
			LEAR				0450.9	0451.1	2				III
			CULG				0559.5		2				IIIB,U
	0632	1541	WEIS				0637	1537	2				IIIN
	0655	1445	DWIN										
	0700	1000	BLEN										
	1017	1231	BLEN				1041.8	1041.9	1				IIIG
			BLEN				1049	1231 D	2				I,DC,C
			BLEN				1144.3	1145.6	2				IIIG
			WEIS				1157	1517	3				IS,DC
	1335	2320	HARV				1335	1400	3				I
	1350	1512	BLEN				1350 E	1512 D	2				I,DC,C
			HARV				1400	1700	2				I
			HARV				1529	2230	2	1529	2230	2	IIIN
			HARV				1700	2320	2				IN
			CULG				2018	2400					IIIS,W
	2018	2400	CULG	2018	2025	1							IS
			CULG				2022	2352	1				IIIN
			CULG	2025	2400								IS,W
			CULG				2033.5		2				IIIB
			HARV				2034		2	2034		1	IIIB
			CULG				2038	2400	1				N,RS,DP
			CULG							2110.5			IIIB,W
			CULG				2149.5		1	2149.5		1	IIIB
			CULG				2150.5		2	2150.5		2	IIIB
			CULG	2222	2225	1							IIIG U
			CULG				2223		1	2223		1	IIIB
			CULG				2224	2230	1				UNCLF
			LEAR				2228.4	2230.6	1				CONT
			CULG				2228.5	2229	2				IIIG
			CULG				2229	2340				IV	
			LEAR				2238.8	1015.0	1				B
25	0000	0716	CULG	0000	0716								IS,W
			CULG				0000	0716					IIIS,W
			CULG				0015.5		2				IIIB
			CULG				0020	0716	1				IIIN
			CULG				0116	0600					N,RS,DP
			CULG				0425	0700					IS,W
			CULG				0436	0448	1				IIIGG
			CULG							0437	0547		IIIN,W
			LEAR				0534.0	0534.6	2				CONT
			CULG				0534.5		2	0534.5		1	IIIB
			CULG				0539	0540.5	3	0539.5	0540	1	IIIGG
			LEAR				0539.6	0540.8	2				V
			CULG				0629	0629.5	1				IIIG,U
	0634	1101	WEIS				0637.0	0637.3	2				IIIG
			WEIS				0639	0738	1				IN

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DAY	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
25	1105	1539	WEIS				0654.5	0655.8	1				IIIG
	0700	1510	BLEN				0700 E	1255	1				I,DC,C
			CULG				0700	0716	1				IS
			WEIS				0701.9	0702.0	1				IIIB
			WEIS				0706.8	0706.9	2				IIIB
			WEIS				0748.5	0823.1	2				IIIGG
	0655	1530	DWIN	0754.0	0810	2						IV	
			BLEN	0759.1	0808.7	2							DCIM
			LEAR				0800.0	0823.3	2				S
			DWIN	0819.0	0823.0	1						IV	
			WEIS				0829.4	0829.7	2				IIIG
			BLEN				0829.4	0829.6	2				IIIG
			WEIS				0835.9	0836.1	1				IIIB
			WEIS				0838.7	0838.8	1				IIIB
			WEIS				0847.6	0847.7	1				IIIB
			WEIS				0911.7	0917.4	1				IIIG
			WEIS				0920.4	0922.4	1				IIIG
			WEIS				0931.2	0931.3	1				IIIB
			WEIS				0937.2	1001.0	3				IIIGG,RS
			DWIN	0939.0	0953.0	3						IV	
			BLEN	0940.7	0948.5	3							DCIM
			LEAR				0947.1	0951.2	2				CONT
			BLEN	0947.6	0950.7	3	0947.2	0952.3	3				IIIGG
			WEIS				1008.1	1008.2	1				IIIB
			DWIN	1028.1	1029.9	1						IV	
			BLEN	1029.6	1029.8	1							DCIM
			WEIS				1029.9	1030.4	2				IIIG
			WEIS				1035.0	1035.3	2				IIIB
			WEIS				1044.5	1044.9	1				IIIB
			WEIS				1120.0	1121.6	2				IIIG
			WEIS				1132.4	1132.5	2				IIIB
			WEIS				1142.8	1143.0	2				IIIB
	1335	2300	HARV				1340	1756	1				IN
			BLEN				1452.6	1452.7	2				IIIG
			HARV				1453		2				IIIG
			HARV				1455	1456	2				IIIG
			WEIS				1455.1	1455.7	2				IIIG
			HARV				1539		1				IIIB
			HARV				1653		2	1653		2	IIIB
			HARV	1657		1	1657		2				IIIB
			HARV				2013	2014	3				IIIG
	2016	2400	CULG				2016	2400					IIIN,W
			CULG				2041.5	2042	1				IIIG
			CULG				2052		1				IIIB
			HARV				2114	2300	1				IN
			CULG	2238	2240								I,W
			LEAR				2352.8	2354.1	1				CONT
			CULG				2353.5		1				IIIG,Z
26	0000	0716	CULG				0000	0716					IIIN,W
			CULG	0030	0034	3							IIIG,N
			LEAR				0101.9	0102.1	1				III
			CULG							0102			IIIB,W
			CULG				0102		2				IIIB
			LEAR				0131.9	0132.1	1				III
			CULG	0145	0700	1							IIIN
			CULG				0219	0320					IN,W
			CULG				0307.5		1				IIIB,U
			CULG				0435	0450	1				IIIN
			LEAR				0435.2	0436.1	1				V
			CULG				0604.5	0606	2				IIIGG
	0710	1507	BLEN	0713.9	0718.5	3	0714.4	0717.4	2				IIIGG
	0635	1537	WEIS				0713.9	0717.4	2				IIIG
			CULG	0714	0715	3	0714.5	0715	1				IIIG
	0655	1530	DWIN	0716.6	0718.5	1							IIIG
			LEAR				0738.0	0740.6	2				CONT
			WEIS				0738.1	0748.0	3				IIIG
			BLEN				0738.5	0738.6	1				IIIG
			BLEN				0759.4	0759.5	1				IIIB
			BLEN				0811.1	0811.6	2				IIIG

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

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DAY	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
26			BLEN				0851.3	0851.4	1				IIIB
			WEIS				0851.4	0851.6	1				IIIG
			BLEN				0852	1507 D	1				I,DC
			WEIS				0857.0	0857.3	1				IIIG
			LEAR				0857.0	0857.2	1				III
			WEIS				0919.8	0922.5	3				IIIGG
			BLEN				0920.7	0930.8	3				IIIGG
			LEAR				0920.8	0931.3	2				S
			WEIS				0930.7	0932.7	3				IIIGG
			WEIS				0958.7	0959.3	2				IIIG
			WEIS				1017.3	1017.4	1				IIIB
			WEIS				1020.3	1020.4	1				IIIB
			BLEN				1031.2	1032.1	1				IIIG
			WEIS				1031.5	1031.9	1				IIIG
			BLEN				1052.3	1053.2	2				IIIG,RS
			BLEN				1102.1	1102.4	2				IIIG,RS
			BLEN	1118.0	1125.9	3	1116.2	1125.9	3				IIIGG
			WEIS	1118.1	1119.6	2							III,DCIM
			DWIN	1119.5	1119.7	1							IIIG
			WEIS				1125.6	1125.8	1				IIIDCIM
			BLEN				1149.9	1150.0	2				IIIB
			WEIS				1151.2	1151.4	2				IIIG
			BLEN				1202.4	1209.2	1				IIIG
			WEIS				1228.5	1228.7	2				IIIG
			WEIS				1251.7	1252.8	2				IIIG
	1335	0000	HARV	1347		2							IIIB
			DWIN	1404.3	1405.0	2							IIIG
			BLEN	1404.4	1404.9	2							DCIM
			HARV				1405	2322	2				IN
			HARV	1435	1450	3	1435	1450	3				IIIGG
			BLEN	1435.1	1449.9	3	1434.5	1449.9	2				IIIGG
			DWIN	1435.8	1445.2	2							IIIG
			WEIS				1435.9	1439.4	2				IIIG,DCIM
			HARV				1521	1522	1				IIIG
			HARV				1524		1				IIIG
			HARV	1855	1856	3							IIIG
	2016	2400	CULG	2016	2400								IN,W
			CULG				2016	2400					IIIN,W
			CULG	2024	2215	2							IIIN
			HARV	2025	2027	2	2025	2027	2				IIIG
			HARV	2037	2039	3	2037	2039	1				IIIG
			HARV				2100		1				IIIB
			CULG				2200		1				IIIB
			CULG				2206		1				IIIB
			HARV	2208		3	2206	2208	3				IIIG
			CULG	2208	2208.5	1	2207.5	2209	2				IIIG,V
			LEAR				2208.2	2208.8	1				CONT
			HARV	2209	2214	3	2209	2214	3				IIIGG
			HARV				2229		1				IIIB
			CULG				2236.5	2237	1				IIIG
			LEAR				2236.7	2237.4	1				CONT
			CULG	2309.5		1	2309.5	2310.5	2				IIIG
			LEAR				2309.6	2310.5	1				CONT
27			CULG				0000	0716					IIIN,W
	0000	0716	CULG	0000	0250								IN,W
			LEAR				0038.9	0039.9	1				CONT
			CULG				0039	0040	1				IIIG
			CULG	0250	0716								IS,W
			CULG				0342						IIIB,U
			CULG				0431.5	0434	3	0433	0433.5	1	IIIGG,U
			LEAR				0431.8	0433.6	2				CONT
			CULG				0441.5		1				IIIB
			CULG				0606		1				IIIB
			LEAR				0606.1	0606.8	1				V
			LEAR				0648.1	0710.4	1				S
			CULG				0649		2				IIIB
			CULG				0708.5	0709.5	1				IIIG
	0637	1256	WEIS				0708.7	0709.8	2				IIIG
	0712	1506	BLEN										

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

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DAY	TIMES OF OBSERVATION START UT	TIMES OF OBSERVATION END UT	STATION	EVENTS: DECIMETRIC BAND START UT	DECIMETRIC BAND END UT	DECIMETRIC BAND INT	METRIC BAND START UT	METRIC BAND END UT	METRIC BAND INT	DEKAMETRIC BAND START UT	DEKAMETRIC BAND END UT	DEKAMETRIC BAND INT	SPECTRAL TYPE
27			BLEN				0712 E	1037	1				I,DC
			BLEN	0812.2	0812.4	2							IIIG
			LEAR				0904.4	0904.6	1				III
			BLEN	0907.1	0910.3	2							IIIGG
			WEIS				0907.2	0907.9	2				IIIG
			LEAR				0907.2	0925.9	2				S
	0724	1530	DWIN	0909.5	0910.3	1							IIIG
			WEIS				0922.4	0922.8	2				IIIG
			BLEN				0922.4	0925.5	2				IIIG
			WEIS				0925.3	0926.0	2				IIIG
			WEIS				1009.7	1010.9	3				IIIG
			BLEN	1009.8	1010.8	1	1009.7	1010.9	3				IIIGG,RS
			BLEN	1023.5	1023.7	1	1023.3	1024.5	2				IIIG
			WEIS				1114.1	1114.2	2				IIIB
			BLEN				1150.8	1151.0	2				IIIG
			DWIN	1241		1							IIIB
	1259	1535	WEIS				1311.3	1312.4	1				IIIG
	1335	2345	HARV				1506	2054	1				IIIN
			WEIS				1506.4	1506.6	1				IIIG
			HARV				1522	1552	1				IN
	2016	2400	CULG				2023	2400					IIIN,W
			HARV				2026	2027	3	2026	2027	2	IIIG
			CULG				2026	2028	1				IIIG
			PALE				2026.2	2027.3	2				V
			CULG				2037	2400	1				IIIN
			CULG				2046	2054	1				POSS II
			PALE				2054.6	2106.0	1				S
			HARV				2056	2057	2	2056	2057	1	IIIG
			HARV				2104		1	2104		1	IIIG
			CULG				2104	2104.5	2				IIIG
			CULG	2106	2129								IN,W
			CULG				2141.5	2142.5	2				IIIG,Z
			HARV				2202		1				IIIB
			HARV				2205		2				IIIB
			CULG	2205.5		1	2205.5		1				IIIB
			LEAR				2328.9	2329.1	1				III
			LEAR				2355.7	0000.6	1				CONT
28	0000	0716	CULG				0005	0716					IIIN,W
			CULG				0020	0246	1				IIIN
			LEAR				0020.6	0021.1	1				V
			LEAR				0036.8	0043.5	1				CONT
			CULG				0043	0043.5	2	0043	0043.5	1	IIIG
			LEAR				0120.8	0121.5	1				CONT
			LEAR				0135.8	0141.3	1				CONT
			CULG	0136	0210								IS,W
			PALE				0151.8	0152.3	1				V
			LEAR				0151.8	0154.4	2				CONT
			CULG				0152	0152.5	2				IIIG
			CULG				0154		2				IIIB
			CULG				0217	0218.5	2	0217.5	0218	1	IIIG,V,Z
			LEAR				0217.3	0220.5	2				CONT
			CULG	0440	0716		0305	0345					IN,W
			CULG				0518	0519					IIIG
			LEAR				0518.9	0519.5	1				CONT
			CULG	0556		1	0556	0556.5	1				IIIG
			CULG				0635	0716					IN,W
	0713	0918	BLEN				0729.3	0729.9	2				IIIG
	0638	1533	WEIS				0729.4	0729.8	2				IIIG,U
			BLEN				0741.1	0743.5	2				IIIG
			WEIS				0743.2	0743.3	2				IIIG
			WEIS				0755.3	0755.8	2				IIIG
			BLEN				0802.5	0802.6	1				IIIB
			WEIS				0849.8	0850.1	2				IIIB
			LEAR				0849.8	0850.0	1				III
			WEIS				0926.2	0930.8	2				IIIGG
			LEAR				0926.4	0930.8	2				CONT
	0700	1530	DWIN	1020.1	1022.1	1							IIIG
			WEIS				1036.8	1037.6	2				IIIG
			DWIN	1238.6	1240.6	2							IV P

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SPECTRAL OBSERVATIONS

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DAY	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
28			WEIS				1238.7	1239.6	2				IIIGG,DCIM
			WEIS				1327.2	1327.5	2				IIIG
			WEIS				1405.8	1407.5	3				IIIGG
	1335	2345	HARV				1406	1407	2				IIIG
			WEIS				1415.9	1416.2	2				IIIB
			HARV				1416		1				IIIG
			WEIS				1418.8	1419.4	3				IIIG
			HARV				1419	1423	3				IIIGG
			WEIS				1420.9	1423.6	3				IIIGG
			WEIS				1431.2	1432.1	2				IIIG
			HARV				1531		2				IIIG
			WEIS				1531.2	1531.6	2				IIIG
			HARV				1552	1554	2				IIIG
			HARV				1600		3				IIIG
			HARV	1619		1							IIIG
			HARV				1730	1731	1				IIIG,U
			HARV	1806	1811	3	1806	1811	3				IIIG
			PALE				1809.5	1809.6	1				III
			HARV				1841	1843	3	1841	1843	3	IIIG,V
			SGMR				1841.6	1842.2	1				III
			PALE				1841.7	1843.1	2				V
			SGMR				1847.6	1858.0	2				III
			HARV	1954		2	1954		2				IIIG
			PALE				1957.6	1958.7	2				V
			HARV				1958		3	1958		3	IIIG,V
			HARV				2012		1				IIIG
			HARV				2016		2				IIIB
	2016	2400	CULG				2016	2400					IIIN,W
			CULG				2021.5		1				IIIB
			CULG	2023	2030								IIIG,N,W
			HARV				2024	2029	1				IIIGG
			CULG	2032	2225								IN,W
			CULG				2035.5	2036	2				IIIB
			PALE				2035.5	2036.8	2				V
			HARV				2036		2	2036		2	IIIG
			HARV				2038	2345	1				IN
			PALE				2057.6	2058.7	2				V
			CULG				2130	2255					IS,W
			CULG				2147	2200	1				POSS II
			CULG				2217	2400	1				CONT
			CULG				2255	2400	1				IS,DC
			PALE				2310.9	2311.3	1				III
			CULG							2345	2400		SWF,W
			CULG				2357.5	2358.5	2	2358	2358.5	2	IIIG
			LEAR				2357.6	2358.7	2				CONT
			PALE				2357.6	2358.8	2				V
29			CULG				0000	0620	1				IIIN
	0000	0620	CULG				0000	0210	1				CONT
			CULG				0000	0309	1				IS,DC
			CULG							0000	0325		SWF,W
			CULG	0026	0620								IN,W
			PALE				0119.5	0120.1	1				V
			LEAR				0119.5	0120.2	1				V
			LEAR				0127.5	0143.5	1				S
			LEAR				0209.8	0227.7	1				S
			CULG							0223.5	0224		IIIG,W
			LEAR				0229.9	0237.1	2				CONT
			CULG				0230	0230.5	2	0230	0230.5	2	IIIG
			PALE				0230.0	0233.8	1				CONT
			CULG				0233.5		2	0233.5		1	IIIB
			CULG				0234	0235	1				IIIG
			CULG	0234									IIIB,W
			CULG	0236	0236.5	1	0237.5		2				IIIB
			CULG				0244	0245	3	0244	0244.5	2	IIIG,V
			LEAR				0244.1	0245.3	2				CONT
			PALE				0244.2	0244.8	2				III
			PALE				0258.9	0259.1	1				III
			LEAR				0258.9	0259.3	2				CONT
			CULG				0259	0259.5	2	0259	0259.5	1	IIIG

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DAY	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
29			LEAR				0301.7	0301.8	1				III
			CULG				0309	0620					IS,W
			LEAR				0320.5	0320.9	1				CONT
			LEAR				0322.3	0322.7	2				CONT
			CULG				0322.5		2	0322.5		2	IIIB
			CULG				0335.5	0336	2	0335.5	0336	2	IIIG
			LEAR				0335.5	0336.3	2				CONT
			CULG							0351	0445		IIIN,W
			CULG				0444		2				IIIB
			CULG				0507.5	0508	2				IIIG
			LEAR				0507.8	0508.2	2				V
	0640	1516	WEIS				0743.3	0743.4	2				IIIB
			WEIS				0749.8	0750.4	2				IIIG
			WEIS				0836.8	0837.6	2				IIIG
			LEAR				0836.8	0840.3	1				CONT
			WEIS				0848.3	0848.5	2				IIIG
			WEIS				0853.6	0853.9	2				IIIG
	0700	1548	DWIN	0927.6	0928.4	2							IIIG
			WEIS				1123.6	1123.7	2				IIIG
			WEIS				1129.2	1129.3	2				IIIB
			DWIN	1139.9	1141.6	2							IIIG
	1129	1505	BLEN	1140.6	1142.3	2							DCIM
			WEIS				1209.7	1211.7	2				IIIG,U
			BLEN	1228.4	1228.6	1							DCIM
			WEIS				1233.2	1233.8	2				IIIG
			WEIS				1248.5	1248.7	2				IIIB
			WEIS				1316.9	1317.2	3				IIIB,U
			WEIS				1320.5	1320.7	2				IIIG
	1335	2345	HARV				1410		2				IIIG
			WEIS				1410.3	1411.4	2				IIIG
			BLEN				1414.7	1414.8	1				IIIG
			WEIS				1414.8	1415.0	2				IIIG
			HARV				1415		2				IIIG
			HARV				1437		2				IIIG
			WEIS				1437.2	1437.4	2				IIIG
	1519	1530	WEIS				1511.0	1520.1	2				IIIGG
			HARV				1512	1520	2				IIIGG
			WEIS				1525.7	1530.0	2				IIIGG
			HARV	1534	1537	3	1526	1537	3	1532	1537	1	IIIGG
			DWIN	1534.4	1534.7	1							IIIG
			HARV				1606	1700	1				IN
			HARV				1609		2				IIIG
			HARV				1612	1613	2	1613		1	IIIG
			HARV				1617		2				IIIG
			HARV				1623	1624	1				IIIBW
			HARV				1630		2	1630		1	IIIB
			HARV				1848		1				IIIB
			HARV				1903	1906	3	1904	1905	2	IIIG
			HARV				1908		3	1908		3	IIIG,V
			HARV				1910	1912	3	1910	1912	3	IIIG
			HARV				2007	2009	2				IIIG
	2017	2400	CULG	2229			2229						IIIB,W
			LEAR				2303.7	1017.0	1				B
30	0000	0716	CULG				0010	0716					IIIN,W
			LEAR				0123.0	0145.4	1				S
			CULG	0125	0126								IIIG,W
			CULG				0127		1				IIIB
			CULG				0142	0145.5	2				IIIGG
			PALE				0145.0	0145.4	1				III
			LEAR				0205.0	0206.8	2				CONT
			CULG	0205.5	0206	2	0205	0206.5	3	0205.5	0206	2	IIIG
			PALE				0205.6	0206.6	2				III
			LEAR				0236.6	0241.5	2				CONT
			CULG				0238.5	0239	1				IIIG
			CULG	0241	0241.5	1	0241	0241.5	1				IIIG
			LEAR				0257.2	0257.4	1				V
			CULG	0305	0305.5								IIIG,W
			CULG				0410.5	0413.5	1	0410.5	0411	1	IIIG,U
			LEAR				0410.5	0413.4	2				CONT

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DAY	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
30			CULG				0418	0513	1				IIIN
			LEAR				0429.9	0432.4	1				CONT
			CULG	0431.5	0432.5	2	0431.5	0432	1				IIIG
			LEAR				0510.5	0512.5	1				CONT
	0700	1530	DWIN										
			CULG				0714.5	0716	3				IIIG
	0642	1529	WEIS				0714.7	0720.4	3				IIIGG
			LEAR				0714.7	0720.3	1				CONT
	0715	1505	BLEN				0714.8	0720.7	2				IIIGG
			BLEN				0736.8	0743.6	1				IIIGG
			WEIS				0736.9	0737.2	2				IIIG
			LEAR				0814.0	0817.3	1				CONT
			WEIS				0814.4	0814.5	2				IIIB
			BLEN				0817.3	0818.4	1				IIIG
			WEIS				0817.7	0818.2	1				IIIG
			WEIS				0854.4	0857.5	2				IIIG
			BLEN				0855.4	0857.3	2				IIIGG,RS
			WEIS				0947.2	0950.0	2				IIIGG
			BLEN				0949.5	1000.2	2				IIIGG
			BLEN				1017.0	1017.2	1				IIIG
			WEIS				1017.1	1020.0	2				IIIG
			WEIS				1032.9	1033.7	2				IIIG
			WEIS				1044.2	1044.6	2				IIIG
			WEIS				1145.6	1147.2	2				IIIG
	1335	2345	HARV				1445	2020	2	1655	1938	1	IIIN
			BLEN				1448.4	1450.5	1				IIIG
			WEIS				1448.5	1448.7	2				IIIG
			WEIS				1450.6	1450.8	1				IIIB
			HARV	1512	1513	2							IIIG
			HARV				1526	1530	2				IIIGG
			HARV	1614	1615	1	1614	1615	3				IIIG
			HARV	1617		1	1617		3	1617		3	IIIG
			HARV	1634		1	1634		3	1634		3	IIIG
			HARV				1638	1640	2	1638	1642	2	IIIG
			HARV	1645	1646	1	1642	1647	3	1642	1647	2	IIIG
			HARV	1657	1658	1	1657	1658	3	1657	1658	2	IIIG
			PALE				1842.9	1849.0	1				CONT
			HARV				1843	1846	3	1843	1846	2	IIIGG
			PALE				1903.9	1908.2	2				CONT
			HARV	1908		2	1904	1908		1904	1908	2	IIIGG
			HARV				1917		3				IIIG
			HARV				1930		3	1930		3	IIIG
			PALE				1930.2	1934.5	3				CONT
			HARV	1933	1934	3	1933	1934		1933	1934	3	IIIG,V
			PALE				1938.0	1938.3	1				III
			CULG				2016	2400					IIIN,W
	2016	2400	CULG	2016	2135								IS,W
			CULG	2019.5	2020	1	2019.5	2020	1				IIIG
			HARV				2020	2022	2	2021	2022	1	IIIG
			CULG				2021	2021.5	2				IIIG
			CULG				2329.5	2330	1	2330	2330.5	1	IIIG
			LEAR				2329.8	2330.0	1				III
			PALE				2329.8	2330.0	1				III
			HARV				2330	2331	2				IIIG
			CULG	2346	2346.5	1							IIIG
31	0000	0716	CULG				0007	0716					IIIN,W
			LEAR				0007.7	0007.8	1				III
			CULG	0018	0018.5	2							IIIG
			CULG				0018	0535	1				IIIN
			LEAR				0018.5	0035.0	1				S
			PALE				0018.6	0023.1	1				CONT
			PALE				0018.6	0340.0	1				B
			CULG	0020	0716								IN,W
			CULG							0048	0716	1	IIIN
			LEAR				0048.0	0052.3	2				CONT
			CULG				0049.5	0050.5	2	0049.5	0050.5	2	IIIG
			CULG	0117	0207	3	0117	0208	3	0117	0208	3	IIIG,N
			LEAR				0117.4	0122.2	3				CONT
			CULG	0119	0136	1							IIIN

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

OCTOBER 1980

DAY	TIMES OF OBSERVATION START UT	TIMES OF OBSERVATION END UT	STATION	EVENTS: DECIMETRIC BAND START UT	DECIMETRIC BAND END UT	DECIMETRIC BAND INT	METRIC BAND START UT	METRIC BAND END UT	METRIC BAND INT	DEKAMETRIC BAND START UT	DEKAMETRIC BAND END UT	DEKAMETRIC BAND INT	SPECTRAL TYPE
31			CULG				0214	0302	2	0214.5	0302	2	IIIG,N
			LEAR				0300.4	0302.4	2				CONT
			LEAR				0307.3	0338.5	1				S
			CULG	0343.5	0345.5	1							IIIN
			LEAR				0357.9	0359.0	2				CONT
			CULG	0358.5	0359	2	0358.5	0359	3	0358.5	0359	3	IIIG
			CULG	0458.5	0500	2							IIIG
			LEAR				0517.9	0534.5	1				S
			CULG				0531	0532.5	2	0531.5	0532.5	1	IIIGG
			LEAR				0531.5	0533.0	2				V
			LEAR				0621.8	0633.1	1				S
			LEAR				0651.1	0709.7	2				S
	0644	1527	WEIS				0653.7	0657.6	2				IIIG
			CULG				0658.5	0659.5	2				IIIG
			CULG				0701.5	0706	2				IIIGG
			WEIS				0704.4	0705.7	2				IIIG
			LEAR				0728.9	0803.6	2				S
			WEIS				0729.2	0730.3	2				IIIG
	0725	1505	BLEN				0732.6	0742.9	2				IIIGG
			WEIS				0732.7	0734.3	3				IIIG
			WEIS				0741.7	0743.0	3				IIIG
			WEIS				0752.8	0752.9	1				IIIB
			WEIS				0754.3	0754.4	1				IIIB
			WEIS				0755.8	0758.6	3				IIIGG
			BLEN				0755.9	0757.2	2				IIIGG
			WEIS				0821.7	0826.7	3				IIIGG
			BLEN				0823.7	0823.8	1				IIIB
			LEAR				0824.5	0833.1	1				CONT
			WEIS				0832.7	0833.0	2				IIIG
			WEIS				0851.7	0852.1	2				IIIG
			LEAR				0851.7	0858.1	2				CONT
			WEIS				0857.7	0858.0	3				IIIG
			WEIS				0903.3	0904.4	3				IIIG
			BLEN	0903.4	0904.4	3	0851.7	0904.4	3				IIIGG
			LEAR				0903.4	0903.9	1				CONT
			LEAR				0912.2	0955.4	2				S
			WEIS				0926.1	0927.2	3				IIIG
			WEIS				0928.9	0929.9	3				IIIG
			WEIS				0931.3	0934.1	3				IIIG
	0705	1430	DWIN	0931.3	0933.2	2							IIIG
			LEAR				0932.6	0933.5	3				V
			BLEN	0932.7	0937.4	2	0926.7	0955.1	3				IIIGG
			WEIS				0936.7	0939.9	3				IIIGG
			DWIN	0937.1	0937.3	2							IIIG
			WEIS				0943.0	0944.6	3				IIIG
			WEIS				0952.6	0952.8	2				IIIG
			WEIS				0953.9	0958.6	2				IIIG
			WEIS				1001.4	1001.6	1				IIIB
			WEIS				1009.8	1010.4	1				IIIG
			WEIS				1051.9	1053.1	2				IIIG
			WEIS				1058.6	1101.3	2				IIIG
			BLEN				1121.7	1121.9	1				IIIG
			WEIS				1121.7	1125.7	3				IIIG
			WEIS				1128.6	1129.9	3				IIIGG
			BLEN				1135.2	1135.5	1				IIIG
			WEIS				1147.2	1151.0	3				IIIGG
			WEIS				1152.9	1153.6	3				IIIG
			BLEN	1152.9	1159.9	2	1147.1	1208.7	3				IIIGG
			DWIN	1152.9	1153.2	2							IIIG
			DWIN	1159.1	1200.0	2							IIIG
			WEIS				1159.3	1200.0	3				IIIGG
			WEIS				1201.3	1204.6	3				IIIGG
			WEIS				1207.7	1209.2	3				IIIGG
			WEIS				1211.3	1211.5	2				IIIB
			WEIS				1225.1	1225.3	1				IIIB
			WEIS				1234.0	1235.5	3				IIIG
			BLEN	1234.2	1234.3	2	1234.2	1234.3	2				IIIG
			SGMR				1234.2	1305.4	2				S
			DWIN	1250.6	1251.1	2							IIIG
			BLEN	1250.7	1304.6	3	1250.7	1304.8	3				IIIGG

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

OCTOBER 1980

DAY	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
31			WEIS				1250.8	1251.5	3				IIIGG
			WEIS				1253.3	1254.9	3				IIIGG
			DWIN	1254.3	1254.7	2							IIIG
			WEIS				1300.4	1300.5	1				IIIB
			DWIN	1303.5	1304.6	2							IIIG
			WEIS				1303.7	1305.2	3				IIIGG
			BLEN	1311.2	1311.5	3							DCIM
	1335	2345	HARV				1335	1520	1				INW
			DWIN	1402.0	1402.4	2							IIIG
			BLEN	1402.1	1402.4	2	1402.1	1402.4	2				IIIG
			BLEN	1406.8	1407.5	2							DCIM
			SGMR				1417.6	1418.0	1				III
			WEIS				1417.7	1418.2	2				IIIG
			HARV				1418		3				IIIG
			HARV				1501	1502	1				IIIG
			BLEN				1501.3	1501.7	1				IIIG
			WEIS				1501.4	1501.9	1				IIIG
			HARV				1526	1527	2				IIIG
			HARV				1839	1840	1				IIIG
			HARV				1955	1956	2				IIIG
			HARV				2000	2340	1				INW
			HARV				2012		1				IIIG
			CULG				2016	2400					IIIN,W
	2016	2400	CULG	2016	2400								IN,W
			HARV				2019	2020	2				IIIG
			CULG				2019.5	2020	1				UNCLF
			CULG				2109	2109.5	1				IIIG
			HARV				2109		1				IIIG
			CULG				2116	2116.5	3	2116	2116.5	1	IIIB
			HARV				2116		3				IIIG
			PALE				2116.3	2117.1	2				V
			HARV	2127	2128	2	2127	2128	1				IIIG
			CULG	2127	2127.5	2							IIIG
			CULG				2137	2251					IS,W
			CULG	2151.5		1							IIIB
			HARV				2152		2				IIIB
			HARV				2302		1				IIIG
			CULG				2310		1	2310		1	IIIB
			CULG				2340.5			2340.5			IIIB,W
			CULG	2342	2343	2	2342	2343	1				IIIG

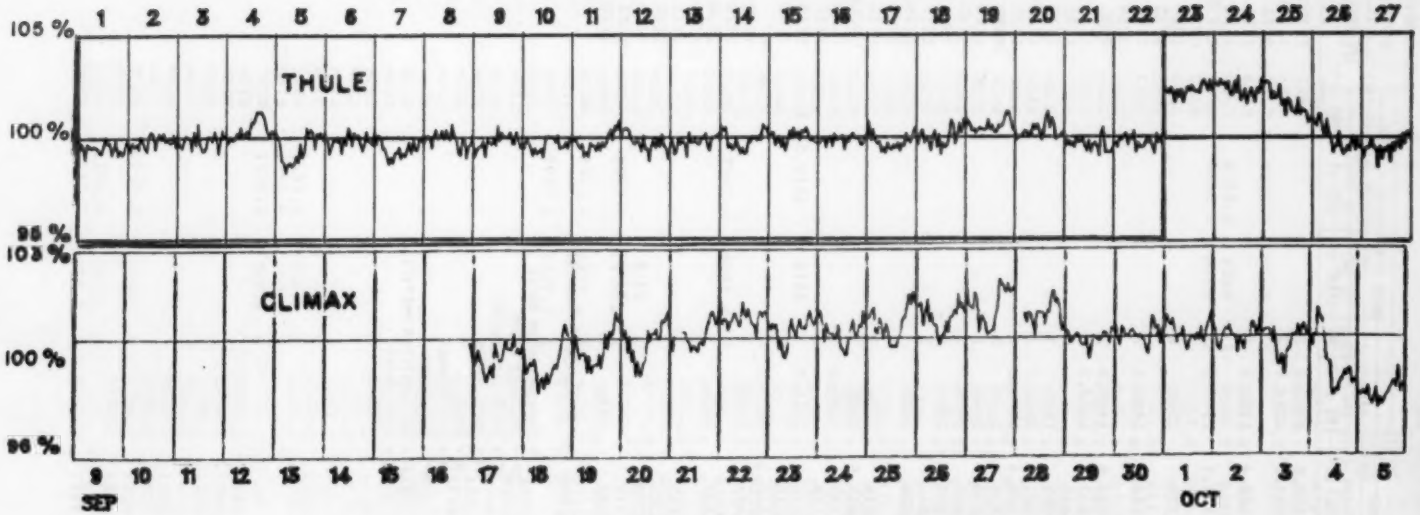
The symbols used under the column heading SPECTRAL TYPE have the following definitions:

B = Single burst
G = Small group (< 10) of bursts
GG = Large group (> 10) of burst
C = Underlying continuum (particularly with Type I)
S = Storm in the sense of intermittent but apparently connected activity
N = Intermittent activity in this period
U = U-shaped burst of Type III

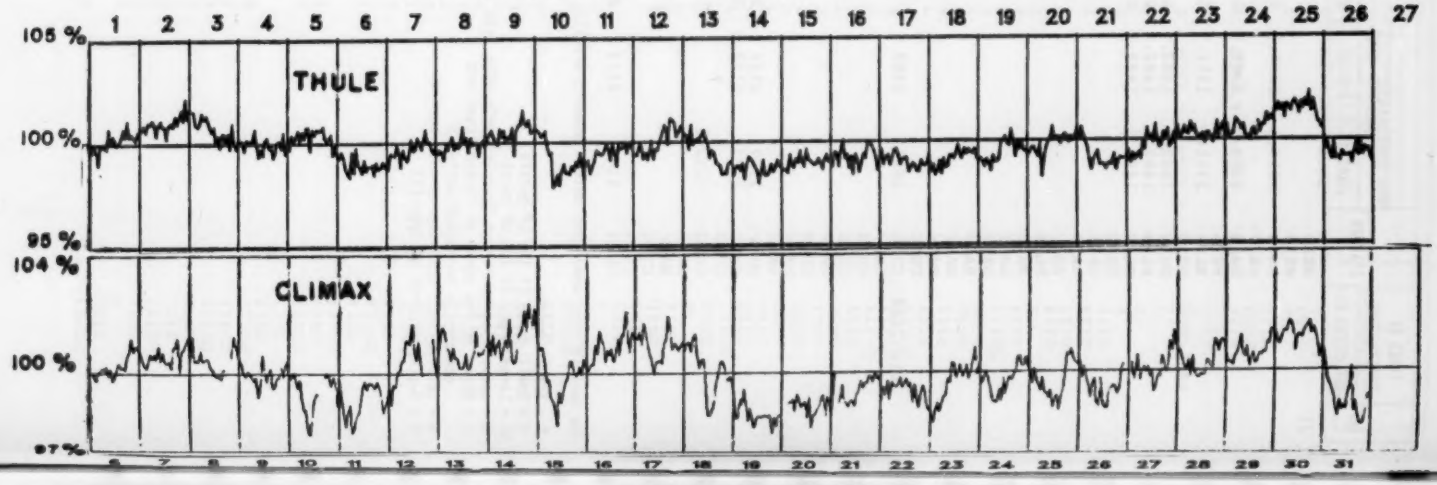
RS = Reverse slope burst
DP = Drifting pairs
DC = Drifting Chains
H = Herringbone
W = Weak
P = Pulsations
CONT = Continuum
UNCLF = Unclassified activity
DCIM = Fast drift

COSMIC RAY INDICES
(Neutron Monitor)

Bartels Rotation 2011 (September 1980–October 1980)



Bartels Rotation 2012 (October 1980–November 1980)



COSMIC RAY INDICES
(Neutron Monitor)

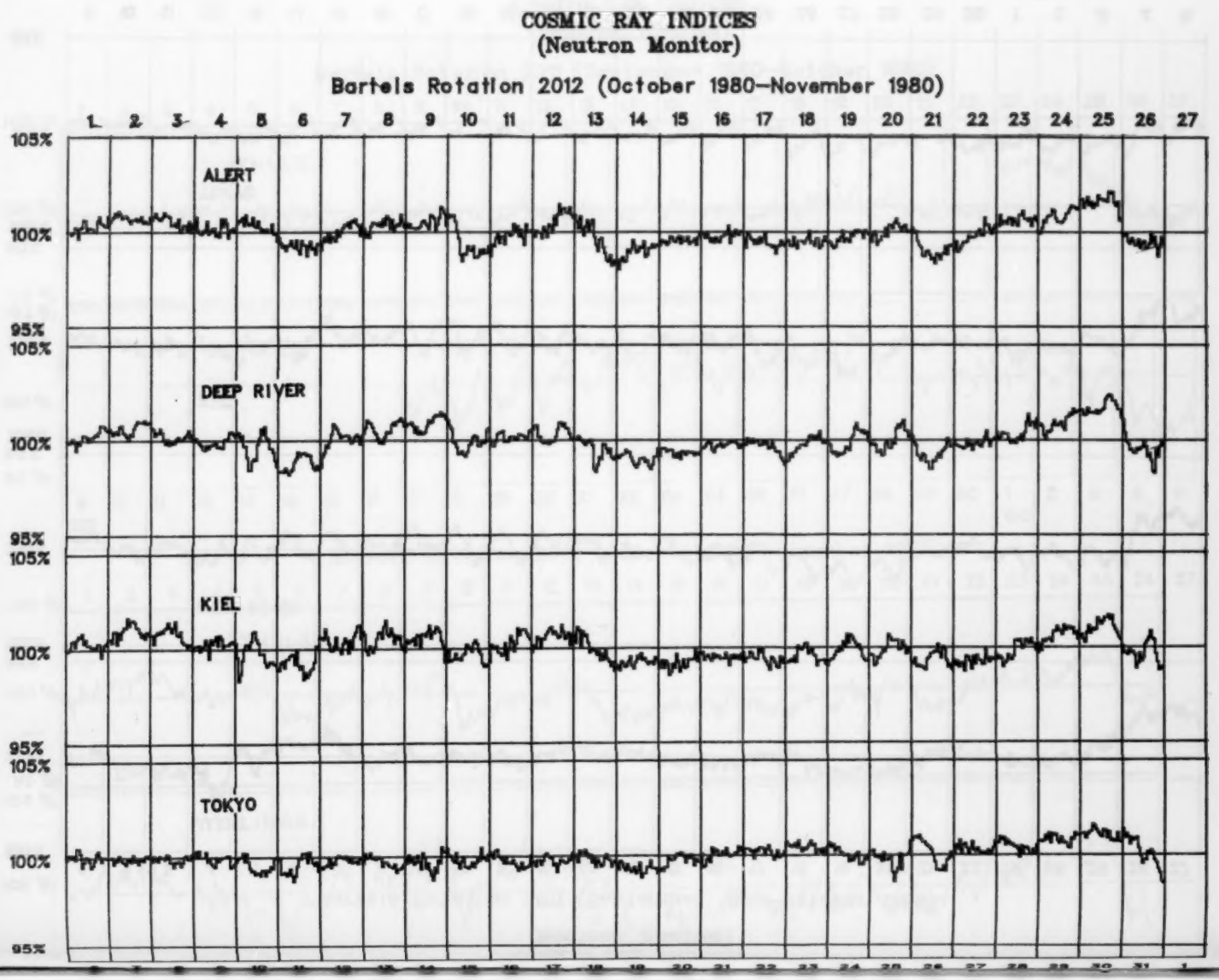
Bartels Rotation 2011 (September 1980–October 1980)

97%

COSMIC RAY INDICES
(Neutron Monitor)

Bartels Rotation 2011 (September 1980–October 1980)

163
Oct 80



COSMIC RAY INDICES
(Neutron Monitors)

COSMIC RAY INDICES

(Neutron Monitors)

OCTOBER 1980

October 1980	THULE Average (cts/h)/100	ALERT Average (cts/h)/100	DEEP RIVER Average (cts/h)/300	CALGARY Average (cts/h/100	KIEL Average (cts/h)/100	CLIMAX Average (cts/h)/100	TOKYO Average (cts/h)/100	HUANCAYO Average (cts/h)/100
1	4128	6669.8	6308.7		5714.8	3764.0	3555.1	
2	4129	6669.3	6302.8		5711.4	3760.3	3558.1	
3	4101	6625.9	6308.1		5687.8	3753.8	3558.9	
4	4033	6531.6	6234.1		5638.4	3726.8	3541.6	
5	4016	6497.3	6176.1		5600.5	3687.4	3530.8	
6	4041	6533.0	6193.9		5615.8	3678.6	3527.1	
7	4077	6562.9	6221.0		5654.2	3700.4	3523.5	
8	4061	6551.7	6194.0		5644.2	3693.1	3523.5	
9	4033	6526.2	6174.9		5615.4	3676.4	3524.1	
10	4046	6535.7	6159.4		5586.4	3652.7	3511.1	
11	3993	6468.1	6105.3		5557.9	3643.1	3512.2	
12	4022	6517.2	6184.8		5624.7	3652.3	3519.1	
13	4030	6539.5	6217.7		5629.5	3704.1	3516.6	
14	4055	6549.0	6236.3		5631.3	3722.8	3516.8	
15	3999	6476.5	6175.7		5582.2	3672.5	3520.0	
16	4010	6503.4	6190.6		5614.3	3709.6	3517.8	
17	4037	6549.7	6200.3		5634.3	3711.9	3517.7	
18	4018	6491.4	6150.5		5598.1	3680.3	3521.6	
19	3983	6449.2	6120.4		5557.9	3624.4	3503.0	
20	3995	6487.3	6139.5		5555.2	3635.5	3518.1	
21	4005	6503.0	6164.1		5572.3	3654.9	3528.7	
22	3997	6480.1	6159.6		5567.1	3653.5	3532.6	
23	4000	6483.2	6165.2		5575.8	3664.8	3541.4	
24	4013	6498.1	6173.2		5592.8	3667.9	3527.8	
25	4029	6518.7	6180.8		5594.0	3665.9	3520.0	
26	4003	6456.3	6137.3		5564.5	3658.3	3531.0	
27	4028	6503.0	6170.9		5559.4	3682.7	3537.4	
28	4048	6557.2	6204.8		5591.3	3690.0	3542.3	
29	4060	6569.1	6237.4		5635.5	3699.8	3555.5	
30	4093	6619.8	6285.6		5657.4	3721.2	3564.1	
31	4008	6482.2	6151.5		5582.4	3642.0	3530.7	
MEAN	4035	6529.2	6194.4		5611.2	3686.2	3529.9	

Data not available at time of publication.

Data not available at time of publication.

For less than 24-hour coverage, parentheses enclose the number of hours for which data are available. For Climax and Huancayo, parentheses enclose the number of section hours whenever the sum of both sections falls below 40 hours.

GEOMAGNETIC ACTIVITY INDICES

OCTOBER 1980

Day	Three-Hourly Indices Kp									Ap	Cp	Three-Hourly Indices Km								Am	aa			
		1	2	3	4	5	6	7	8	Sum			1	2	3	4	5	6	7	8		N	S	M	
1	Q2	0	0	0	1-	1+	1	1-	1	5-	2	0.0	0	0	0	1-	2-	1-	1	1	4	5	5	2	0 CC
2	Q7	1	1+	2-	2-	2+	1+	0+	0	10-	5	0.2	1+	1+	2-	2	2+	1	0+	0	9	8	7	8	7 CC
3	Q0K	0	0	1-	1	1-	2	2	3	9+	5	0.2	1-	0+	1-	1-	1-	1+	2	3+	10	13	9	5	17 K
4	D4	3	4+	3+	3+	4	5	4	4-	31-	26	1.2	3	4	3	3	4	5-	4-	4-	46	38	49	38	50
5		5-	4+	4	3+	4-	3	3-	3-	28+	22	1.1	4	4-	3	3+	4-	3-	3-	3-	35	32	33	41	25
6		3	3+	4-	4-	2	3-	2+	2	23-	14	0.8	2+	3-	3+	3+	2-	3-	3-	2+	23	26	19	28	17
7		4-	3	3-	2+	3+	2	2+	2-	21	12	0.7	3	3-	3-	3-	3+	2	2+	2-	22	24	25	26	23
8		2-	3-	3	2-	3-	3	3+	3	21	12	0.7	2-	3-	3-	2	2+	3-	3	3	22	22	20	19	24
9		4-	3-	4-	3+	2+	3	4-	2	24+	16	0.9	3+	2+	3	3+	2	3-	3	2+	27	28	23	30	21
10		3	3-	2	2+	3-	4-	3+	6	26-	22	1.1	3	2+	2	2	3	3+	3+	5	35	31	30	17	44
11	D2	5-	6-	6	5+	5	2+	2+	2+	34-	40	1.4	4+	4+	5	4+	5-	2+	2-	2+	52	48	47	70	26
12		2-	3-	3+	1+	3+	2+	3-	2	19+	11	0.6	2	3	3-	2-	3	3-	2+	3-	22	18	19	19	19
13	Q9	1	1	2	2-	2	1+	1+	1+	12-	5	0.2	1	1	1+	1+	2-	1+	1+	1+	9	9	8	11	7 CC
14		2-	2-	2	2-	1+	3	1	3	18+	11	0.6	2-	2-	2+	1+	1+	3-	4	3	20	20	17	11	26
15		3+	4-	4-	3+	2+	2	2+	3-	23+	15	0.8	3	3	3	3+	3-	2+	3-	3-	27	24	32	36	20
16	Q6	2+	1-	1-	0+	0+	0+	1-	1-	6	3	0.1	2-	1-	1-	0	0	0+	0+	1	5	6	5	5	6 CC
17	Q8	0	1+	2-	2-	2-	1	2-	2	11	5	0.2	0+	1	2-	1+	1+	1+	1+	3-	10	10	14	10	14 C
18		3+	4+	4+	4-	2+	3+	4+	2	28-	21	1.1	4	4-	4-	4-	2+	3	4-	2+	38	36	45	50	32
19		2	2-	2+	3-	2+	3-	3+	3	20	11	0.6	1+	2-	2	3-	2+	2+	3+	3	21	22	17	13	27
20	Q5	1+	2-	0+	1	1	1	0+	1+	8	4	0.1	1+	1+	0	1	1+	1+	1	1+	7	6	9	7	9 C
21		1+	2+	2	2	2+	2+	2	2-	16	7	0.4	1+	2	1+	2	2+	3-	2-	2	14	14	17	13	19
22		2-	3+	3-	4-	3+	3-	5-	5+	27+	23	1.1	2-	2+	3-	3+	3+	3-	4+	5	37	39	42	28	53
23	D1	3+	4+	6-	6-	6	4+	5-	3	37	44	1.5	3+	3	5-	5	5+	5-	4+	3+	67	58	71	72	58
24		3-	2+	2	3	4-	2	3+	3+	22+	14	0.8	2+	2	2-	3-	3	2+	3	4-	25	25	21	18	29
25	D5	4	2+	4	4-	3+	4	4	4+	30-	24	1.1	4	2	3	4-	3	4-	4-	4	39	45	44	39	50
26		4	3	4	3	2-	2-	1+	0+	19	13	0.7	3+	2+	4-	3-	2	1+	1+	1-	20	20	24	37	7
27	Q4	0+	1-	1	1-	1-	1-	1+	0+	6-	3	0.1	0+	1-	1	0+	1-	1-	1+	0	4	4	4	4	4 CC
28	Q1	0	0	0+	0+	0+	0+	1-	1-	3-	2	0.0	0	0	0	0	0	0	0+	1+	2	3	3	2	4 CC
29	Q3	1-	0	1-	0+	1-	1	1+	1-	5+	3	0.1	1-	1-	1-	0	1-	1	2-	1+	6	5	7	4	8 CC
30		2	3	3-	1+	0+	3	2	3+	18-	10	0.6	2-	2+	2	1+	1-	3	2+	4-	20	17	20	15	22
31	D3	3+	3+	4	3+	5+	5	4	4	32+	30	1.3	3-	3	3+	3	5-	5-	4	4-	47	45	49	34	60
										Mean	14	0.65									23.4	22.4	23.7	23.2	

Day	Three-Hourly Indices Kn								An	Three-Hourly Indices Ks								As
	1	2	3	4	5	6	7	8		1	2	3	4	5	6	7	8	
1	0	0	0	1-	2-	1-	1-	1	4	0	0+	0	1-	1+	0+	1	1	4
2	1	1	2-	2	3-	1+	0+	0	9	1+	1+	2-	2+	2+	1	0+	0+	10
3	0+	0	1-	1-	0+	2-	2-	3+	9	1	1-	1	1-	1-	1	2	3+	11
4	3-	3+	3	3+	4	5-	4-	3+	44	3+	4+	3	3	4-	5-	4-	4-	48
5	4-	4-	3	4-	4-	3-	2+	2+	34	4+	4-	3	3	3+	3	3	3-	36
6	2+	3-	3	3+	2	3-	2+	2+	23	3-	2+	3+	3	2-	3-	3-	2+	24
7	3-	2	2+	3-	3+	2	2	1+	20	3	3	3-	3-	3	2	3-	2	24
8	1+	2+	3-	2	2+	3-	3	3	21	2+	3	3-	2-	2+	3-	3	3+	24
9	3	2+	3	3	2	3-	3	2	24	3+	3-	3	4-	2	3	3+	3-	30
10	2+	2	2	2	3-	3	3+	5	31	4-	2+	2-	2	3+	3+	3+	5+	40
11	4-	4+	5	4+	5-	2+	2	2+	50	5-	4+	5	5-	5-	2	2-	2+	54
12	2-	2+	3-	1+	3	3-	3-	2+	20	2+	3+	3-	2	3	3-	2+	3-	24
13	1	1	1+	1+	2-	1	1+	1+	8	1	1+	2-	1+	2-	1+	1+	2-	10
14	2-	1	2+	1+	1+	3	4-	3	20	2-	2+	2+	1+	1+	3-	4	3	22
15	3-	3	3	3	2+	2+	3	3-	26	3	3	3	4-	3-	2+	2+	3-	28
16	2	0+	1-	0+	0	0+	0+	1	5	1+	1	1	0	0	0	1-	1	4
17	0+	1	2-	2-	2-	1+	1+	2+	10	1-	1+	1+	1+	1+	2-	2-	3-	11
18	3+	3+	4-	3+	3-	3-	4-	2	32	5-	4+	4	4-	2	3	3+	3-	43
19	1+	1+	2-	3-	3-	2+	3+	3-	20	1+	2-	2+	3-	2+	3-	3+	3+	22
20	1+	1+	0	1	1+	1	1	1	7	2-	1+	0	1	1	1+	1	1+	8
21	1	1+	1+	2-	2+	2+	2-	2-	13	1+	2+	2-	2	3-	3-	2-	2+	17
22	1+	2	3-	3+	3	2+	4-	5-	33	2	2+	3-	3	3+	3	5-	5	41
23	3	3	5-	5	5	4	5-	3	61	4-	3	5-	5	6-	5	4+	4-	73
24	2	2-	2-	3-	3	2	3	3+	22	3-	2+	2	2+	3	3-	3+	4	28
25	4-	2-	3+	3	3	3	3	4	34	4+	3-	3	4-	3	4-	4-	4	44
26	3+	2+	3+	3-	2	1+	1+	0+	18	3+	3-	4	3-	2-	1+	1+	1-	22
27	0+	1-	1-	0+	1-	1-	1	0	4	0+	1	1+	1-	1-	1-	2-	0+	6
28	0	0	0	0	0	0	0+	1-	2	0	0	0	0	0	0+	0+	1+	2
29	0+	0+	1-	0+	1	1	1+	1	5	1-	1	1-	0	1-	1+	2	2-	7
30	1+	2	2+	1+	0+	3	2+	3+	17	2	3-	2	1	1	3+	2	4+	22
31	3-	3	3+	3+	5-	4+	4	4-	44	3	3	4-	3	5-	5-	4	4	50
									Mean 21.6									25.5

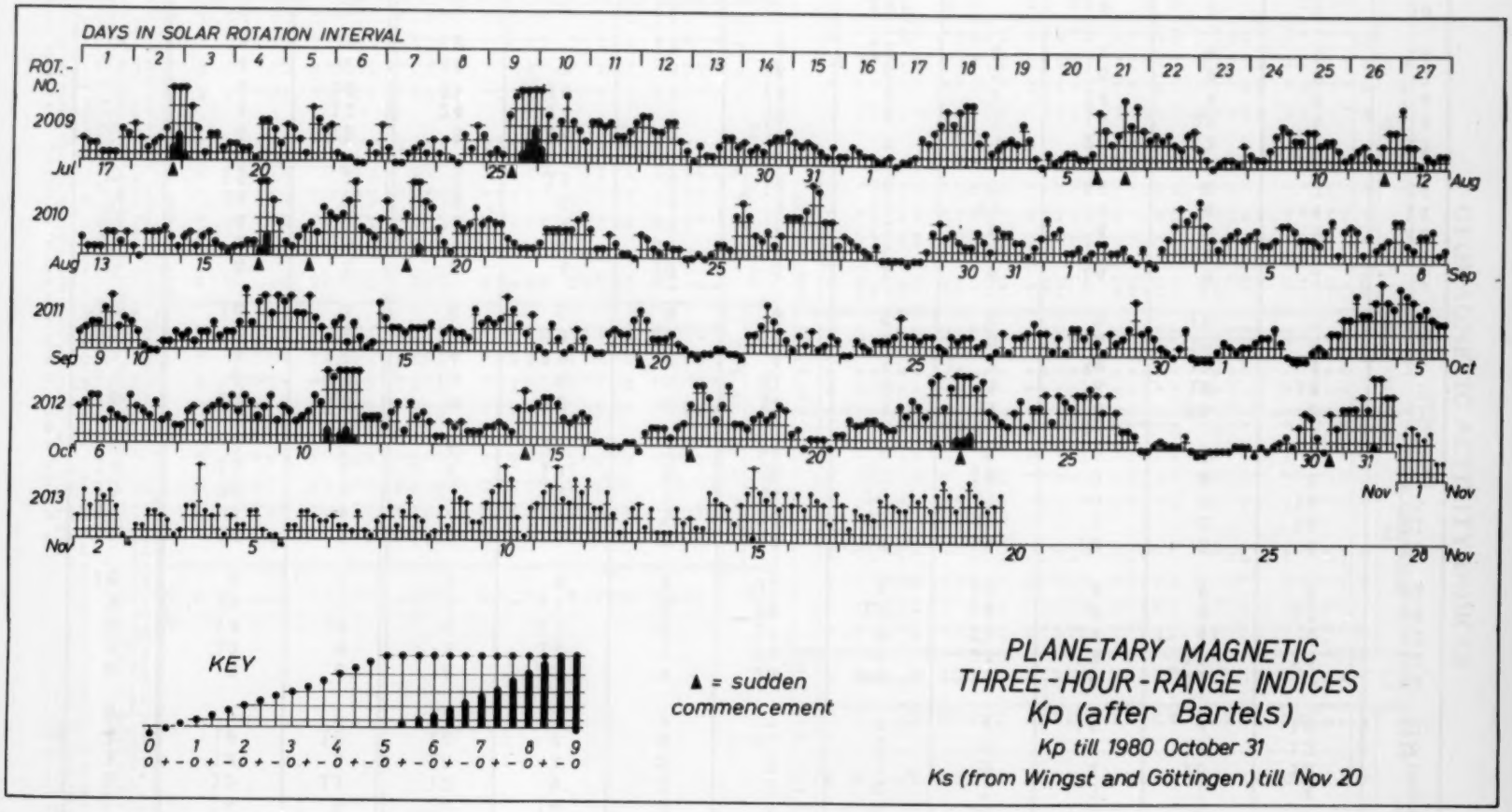
Quiet days (Q) and disturbed days (D), geomagnetic planetary three-hour-range indices (Kp) (integers alone are equivalent to those normally given with a small zero), magnetic character figures (Cp), and average amplitude (Ap) (unit 2 nT) prepared by Geophysikalisches Institut at the University of Göttingen, F.R. of Germany for the International Service of Geomagnetic Indices. Ten most quiet days [Q1-Q0(10)] and five most disturbed days [D1-D5] are ordered from most quiet or disturbed, respectively. A or K means "not really quiet" (A = "Ap>6", K = "Ap≤6 but one Kp>30 or two Kp values>3-"). An asterisk means "not really disturbed" (Ap<20).

Geomagnetic three-hourly indices Km, Kn, Ks, daily mean values Am, An, As (unit 1nT), and indices aa are prepared by M. Menvielle of the Institut de Physique du Globe, Paris, France. For aa indices daily north (N) and south (S) values, and half-daily antipodal mean (M) values are given. Quiet 24-hour and 48-hour intervals centered on 1200 UT are indicated for really quiet as C and for quiet but with some slightly disturbed three-hour intervals as K. The first hundred years series of aa is in IAGA Bulletin No.33, and complementary data are in IAGA Bulletin No.39.

DAILY AVERAGE INDICES Ap

	1979		1980									
DAY	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT
1	16	9	24	10	3	4	8	22	5	4	7	2
2	12	11	12	9	3	3	4	7	3	7	4	5
3	10	9	18	3	5	7	3	9	4	20	12	5
4	10	16	16	4	5	11	4	5	7	8	12	26
5	2	7	12	3	7	7	7	4	15	4	10	22
6	3	6	8	33	9	28	12	16	10	21	9	14
7	12	4	5	12	7	18	9	27	13	10	10	12
8	14	10	6	17	6	17	7	23	14	4	8	12
9	19	7	3	11	7	20	18	14	8	9	12	16
10	6	5	3	4	4	22	8	33	4	9	4	22
11	10	5	11	4	4	30	38	59	10	8	6	40
12	7	4	4	3	1	28	23	32	5	8	18	11
13	35	4	23	2	7	18	14	27	9	6	16	5
14	13	4	9	18	5	10	17	10	9	6	8	11
15	3	9	6	33	2	20	6	5	6	5	8	15
16	12	10	9	40	4	12	3	9	6	26	8	3
17	8	13	13	6	5	11	3	3	6	10	14	5
18	4	7	4	10	4	4	4	3	30	18	4	21
19	7	6	4	10	10	5	8	8	16	28	6	11
20	10	4	6	6	4	6	5	6	9	10	7	4
21	6	4	6	4	18	5	4	6	14	8	2	7
22	2	15	5	4	16	9	6	6	5	10	8	23
23	4	3	5	9	6	6	11	6	4	5	5	44
24	24	7	5	6	4	7	12	13	7	4	4	14
25	15	2	7	13	6	9	34	8	46	5	7	24
26	4	10	6	14	30	5	7	15	26	12	5	13
27	4	12	24	14	7	5	3	3	15	22	6	3
28	2	16	27	10	7	4	4	3	14	4	6	2
29	4	32	26	7	8	6	6	5	6	4	9	3
30	15	20	10		11	8	10	8	8	6	5	10
31		9	5		21		16		6	7		30
MEAN	10	9	10	11	8	11	10	13	11	10	8	14

GEOMAGNETIC ACTIVITY INDICES



GEOMAGNETIC ACTIVITY INDICES

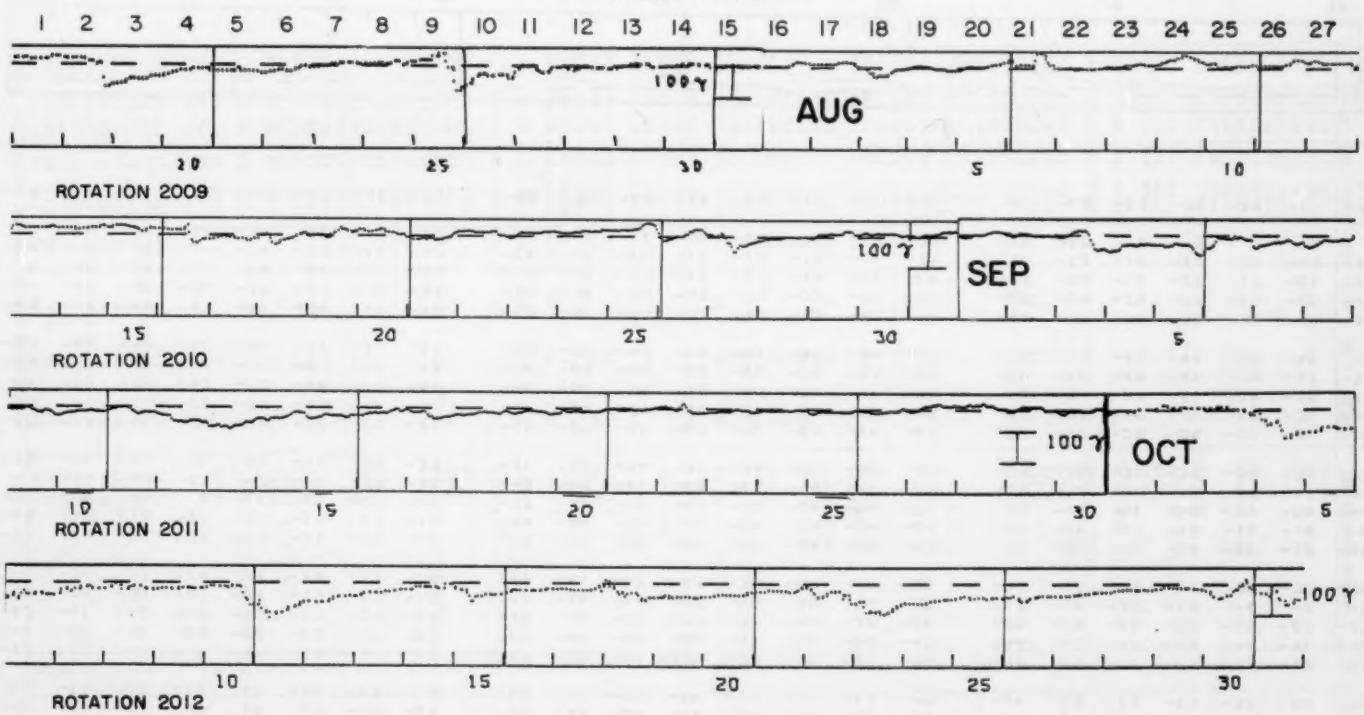
Hourly Equatorial Dst

by Bartels Rotation

GEOMAGNETIC ACTIVITY INDICES

Hourly Equatorial Dst

by Bartels Rotation



Note: Both the sensitivity indicator placed on the last day of the month and the zero reference level change from month to month.

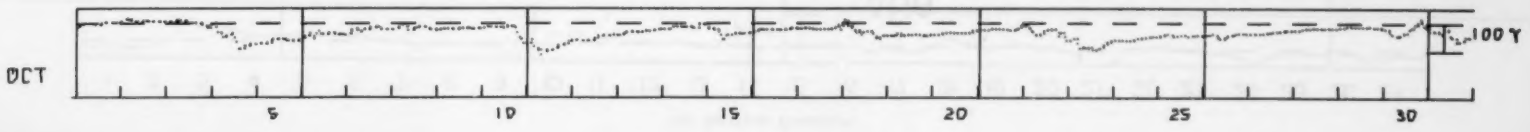
HOURLY EQUATORIAL Dst VALUES (PROVISIONAL)

NASA/GODDARD SPACE FLIGHT CENTER

OCTOBER 1980

(Time-UT) (Units-Gammas)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-12	-9	-8	-6	-3	0	1	0	-2	-5	-6	-9	-11	-5	-4	1	4	4	3	1	0	3	3	3
2	3	4	7	14	15	11	11	5	2	6	2	-2	9	10	6	6	2	1	1	2	1	1	3	3
3	2	2	2	0	2	6	8	12	8	5	5	3	-1	-4	-3	0	2	-5	-5	-4	-9	-13	-17	-20
4	-16	-6	1	-16	-35	-37	-40	-51	-48	-41	-38	-35	-38	-53	-68	-91	-89	-85	-78	-78	-78	-74	-69	-76
5	-74	-69	-67	-68	-72	-74	-67	-64	-66	-59	-54	-57	-52	-56	-54	-55	-58	-63	-60	-62	-66	-61	-60	-57
6	-55	-49	-45	-42	-41	-35	-39	-50	-56	-36	-27	-40	-42	-40	-38	-34	-33	-32	-35	-41	-43	-41	-40	-41
7	-45	-41	-36	-27	-22	-18	-18	-28	-33	-27	-20	-23	-26	-15	-13	-16	-12	-12	-12	-21	-26	-24	-25	-24
8	-24	-23	-23	-16	-14	-12	-4	-11	-16	-25	-25	-25	-22	-17	-14	-13	-11	-15	-16	-18	-23	-26	-25	-25
9	-29	-24	-22	-20	-19	-18	-18	-23	-20	-22	-26	-24	-18	-16	-16	-18	-17	-14	-20	-23	-20	-19	-17	-20
10	-18	-16	-14	-11	-12	-14	-13	-18	-18	-15	-15	-17	-19	-22	-13	-9	-14	-15	-13	-19	-37	-53	-59	-73
11	-72	-73	-69	-67	-57	-84	-91	-97	-112	-90	-91	-100	-98	-90	-90	-89	-85	-80	-75	-73	-70	-70	-68	-62
12	-51	-57	-57	-56	-58	-63	-64	-59	-60	-64	-62	-58	-51	-52	-50	-43	-44	-40	-40	-43	-44	-41	-38	-43
13	-43	-41	-42	-38	-35	-32	-29	-28	-30	-31	-32	-33	-34	-32	-30	-26	-25	-28	-26	-23	-25	-23	-21	-20
14	-19	-20	-20	-20	-20	-19	-12	-12	-12	-11	-16	-15	-15	-15	-15	-12	-12	-19	-22	-18	-4	-2	-7	-6
15	-9	-18	-23	-20	-27	-26	-22	-34	-45	-61	-57	-42	-39	-41	-39	-36	-34	-35	-40	-41	-38	-35	-34	-35
16	-33	-31	-29	-27	-23	-21	-20	-22	-22	-21	-23	-24	-25	-26	-25	-23	-24	-24	-21	-20	-20	-18	-16	-16
17	-18	-19	-18	-18	-17	-16	-17	-19	-24	-26	-25	-24	-24	-26	-24	-24	-24	-25	-23	-19	-16	-14	-8	-16
18	-27	-9	10	2	-14	-15	-20	-29	-37	-31	-26	-45	-32	-29	-32	-30	-28	-41	-51	-56	-59	-50	-43	-43
19	-43	-43	-43	-43	-43	-41	-37	-41	-48	-48	-41	-39	-46	-46	-41	-39	-40	-45	-46	-44	-49	-44	-44	-41
20	-39	-44	-45	-45	-40	-38	-36	-35	-34	-33	-34	-37	-36	-35	-36	-38	-39	-38	-37	-37	-34	-32	-27	-27
21	-25	-23	-24	-24	-24	-28	-26	-20	-19	-23	-25	-22	-20	-23	-27	-27	-27	-30	-29	-26	-26	-21	-19	-13
22	-9	-9	-15	-20	-24	-30	-36	-43	-47	-44	-37	-35	-28	-23	-25	-26	-21	-21	-25	-37	-49	-34	-34	-51
23	-54	-60	-59	-53	-52	-56	-73	-90	-88	-81	-88	-90	-83	-81	-94	-96	-95	-87	-87	-81	-74	-70	-64	-63
24	-59	-57	-60	-62	-62	-61	-62	-64	-64	-63	-62	-63	-56	-52	-53	-52	-49	-49	-48	-46	-49	-47	-45	-50
25	-52	-46	-42	-41	-38	-37	-40	-44	-43	-50	-43	-43	-41	-41	-39	-47	-51	-46	-42	-44	-42	-45	-40	-46
26	-49	-39	-41	-43	-41	-36	-42	-46	-52	-55	-59	-53	-49	-46	-42	-40	-41	-39	-36	-35	-38	-40	-41	-41
27	-39	-37	-37	-36	-37	-37	-38	-37	-38	-36	-35	-33	-33	-32	-31	-30	-29	-29	-29	-27	-25	-25	-25	-25
28	-26	-25	-26	-26	-24	-21	-20	-19	-18	-18	-19	-16	-17	-18	-21	-22	-23	-22	-19	-17	-17	-21	-20	-18
29	-18	-15	-14	-14	-14	-11	-11	-12	-14	-15	-15	-13	-13	-15	-14	-15	-14	-12	-16	-19	-20	-18	-17	-20
30	-23	-25	-24	-27	-34	-40	-43	-48	-46	-44	-41	-36	-33	-33	-32	-22	-16	-15	-7	-3	2	13	2	-11
31	-18	-19	-31	-32	-33	-29	-32	-36	-40	-35	-23	-19	-28	-47	-52	-55	-67	-62	-62	-58	-55	-47	-51	-47



PRINCIPAL MAGNETIC STORMS

OCTOBER 1980

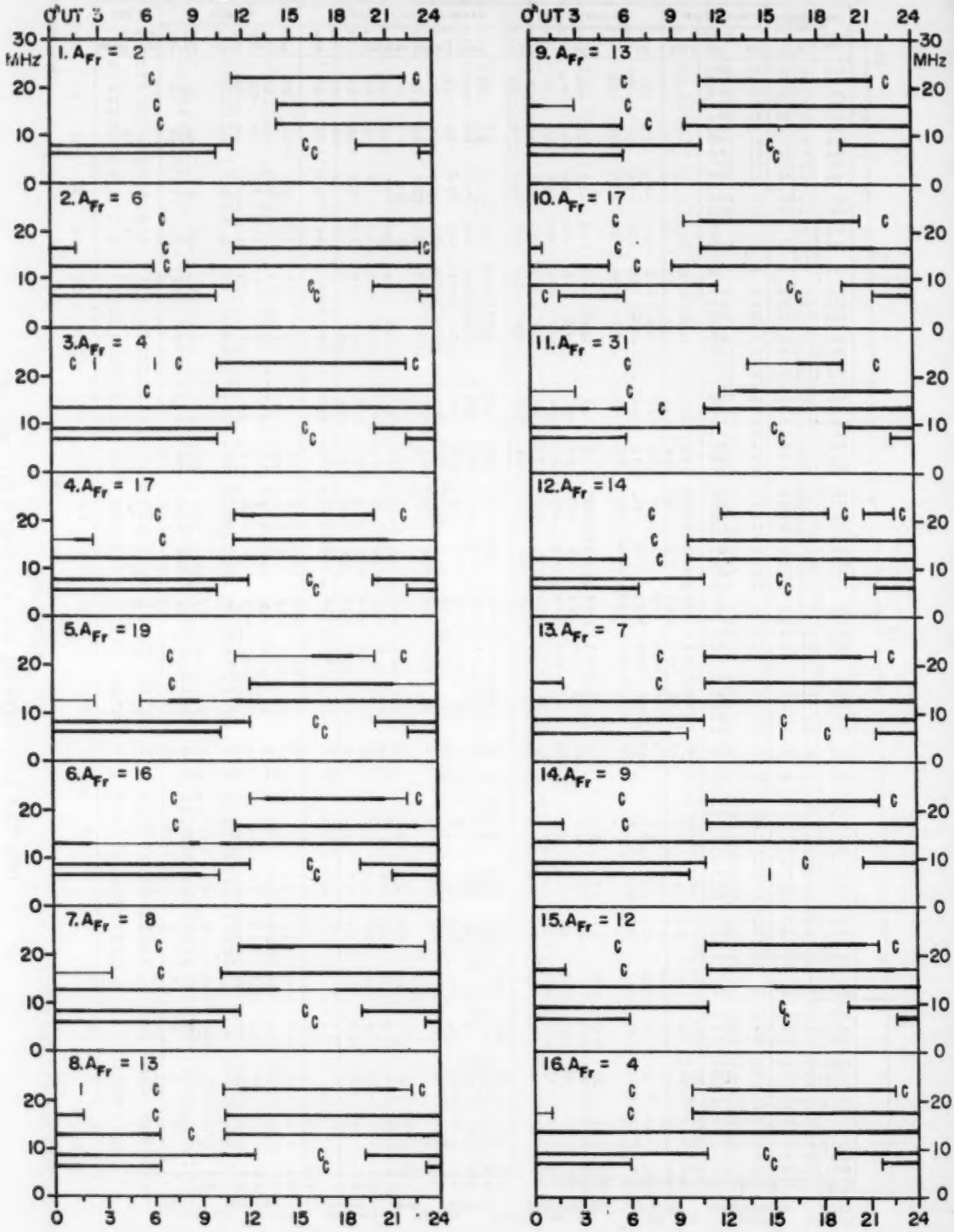
OBS. 3 letter code	GEOMAG-NETIC LATI-TUDE	COMMENCEMENT DAY	hr min (UT)	TYPE	SC - AMPLITUDES D(')	H(γ)	Z(γ)	MAXIMUM 3 HOUR - INDEX K DAY(3 HOUR PERIOD)	K	RANGES D(')	H(γ)	Z(γ)	UT END DAY	HOUR
NEW	55.1N	03	22--	..	..	..	..	05(3)	5	27	110	156	07	10
FRD	49.6N	03	20--	..	..	..	..	05(1)	5	20	121	58	07	--
JAI	17.3N	03	20--	..	..	..	..		-	8	161	48	06	19
SHL	14.6N	03	20--	..	..	..	..		-	8	187	42	06	19
UJJ	13.5N	03	20--	..	..	..	..		-	7	183	46	06	19
ABG	09.5N	03	20--	..	..	..	..	04(5)	6	6	193	51	06	10
HYB	07.6N	03	1500	..	..	..	..	04(6)	6	6	207	33	05	23
ANN	01.5N	03	20--	..	..	..	..		-	--	--	--	06	19
TRD	01.1S	03	20--	..	..	..	..		-	3	--	131	06	19
PNG	18.6S	03	22--	..	..	..	..	04(5,6)	5	10	190	70	05	20
COL	64.6N	04	01--	..	..	..	..	04(4,6) 05(2,4)	6	267	980	680	05	21
GUA	04.0N	04	0113	..	..	..	..	04(5)	5	10	210	30	--	--
TOO	46.7S	04	02--	..	..	..	..	04(5)	5	23	110	50	05	19
HYB	07.6N	06	0500	..	..	..	..	06(3,4,6) 07(3,5)	3	6	143	37	07	20
HYB	07.6N	08	0300	..	..	..	..	08(2,3) 09(4)	4	5	124	32	09	21
COL	64.6N	10	07--	..	..	..	..	11(3)	7	101	1270	940	11	17
SIT	60.0N	10	22--	..	..	..	..	11(3)	7	--	--	600	11	23
NEW	55.1N	10	2147	SC	10	44	..	11(3)	7	59	298	357	13	01
WIT	54.2N	10	19--	..	..	..	..	10(8)	6	30	230	55	11	15
FRD	49.6N	10	20--	..	..	..	..	11(3)	6	29	99	85	13	--
JAI	17.3N	10	13--	..	..	..	..		-	7	139	35	12	23
SHL	14.6N	10	13--	..	..	..	..		-	5	130	29	12	23
UJJ	13.5N	10	13--	..	..	..	..		-	6	145	32	12	23
ABG	09.5N	10	13--	..	..	..	..	11(2,3,5)	5	6	147	40	12	23
HYB	07.6N	10	0000	..	..	..	..	11(3)	6	6	231	30	12	23
GUA	04.0N	10	2034	..	..	..	..	11(5)	6	10	190	50	11	16
ANN	01.5N	10	13--	..	..	..	..		-	5	231	84	12	23
TRD	01.1S	10	13--	..	..	..	..		-	--	--	--	12	23
PNG	18.6S	10	00--	..	..	..	..	11(2,4,5)	5	13	220	110	12	00
HER	33.7S	10	2000	..	..	..	..	10(8)	5	22	95	67	11	15
TOO	46.7S	10	12--	..	..	..	..	11(3,4)	5	24	160	80	11	15
FRD	49.6N	14	1952	SC*	1	19	- 5	14(7) 18(2,3)	4	14	100	38	20	--
JAI	17.3N	14	1951	SC	- .8	29	- 6		-	7	68	48	16	01
SHL	14.6N	14	1951	SC	- .4	26	5		-	8	87	47	16	01
UJJ	13.5N	14	1951	SC	- .5	33	- 7		-	6	70	42	16	01
ABG	09.5N	14	1951	SC	- .6	25	- 5	14(7)	5	5	76	45	16	01
HYB	07.6N	14	1953	SC	- .3	27	- 2	14(7)	5	5	93	31	16	01
ANN	01.5N	14	1951	SC	- 1.1	32	17		-	3	140	82	16	01
TRD	01.1S	14	1951	SC	.1	24	33		-	2	192	107	16	01
KGL	56.5S	14	1952	SC	18	38	14	15(4)	4	--	--	--	15	18
SHL	14.6N	17	22--	..	..	..	..		-	6	133	43	19	23
UJJ	13.5N	17	22--	..	..	..	..		-	6	144	39	19	23
ABG	09.5N	17	22--	..	..	..	..	18(1,3,6)	5	5	153	40	19	23
ANN	01.5N	17	22--	..	..	..	..		-	4	235	69	19	23
TRD	01.1S	17	22--	..	..	..	..		-	3	275	153	19	23
HYB	07.6N	18	0114	SC	- .7	22	- 1	18(1,2)	5	5	173	25	19	23
GUA	04.0N	18	0113	SC	..	32	- 9	18(2)	5	--	180	40	18	20
HER	33.7S	18	0000	..	..	..	..	18(1,4)	5	25	122	78	18	22
TOO	46.7S	18	0114	SC	.4	8	..	18(2,3)	5	19	120	40	18	20
KGL	56.5S	18	0114	SC*	35	-21	-10	18(1,7)	5	--	--	--	18	23
KGL	56.5S	19	2040	SC	24	24	6	19(7)	5	--	--	--	20	00
NEW	55.1N	21	2146	SC	2	7	..	23(3,4,5)	6	44	324	292	26	22
COL	64.6N	22	03--	..	..	..	..	23(3,4,5)	7	254	1630	820	23	23
SIT	60.0N	22	04--	..	..	..	..	23(3)	8	--	--	650	26	11
WIT	54.2N	22	1014	SC*	- 4 *	21 *	0	22(7,8) 23(3,5,6,7)	5	27	190	90	23	21
FRD	49.6N	22	----	..	..	..	..	23(4)	6	25	130	91	26	--
SHL	14.6N	22	12--	..	..	..	..		-	5	162	23	24	01
UJJ	13.5N	22	12--	..	..	..	..		-	6	145	31	24	01
ABG	09.5N	22	12--	..	..	..	..	23(3)	6	7	155	36	24	01
HYB	07.6N	22	0100	..	..	..	..	23(5)	6	5	215	28	24	16
GUA	04.0N	22	2106	..	..	..	..	23(4)	6	10	190	40	24	14
ANN	01.5N	22	12--	..	..	..	..		-	6	198	49	24	01
TRD	01.1S	22	12--	..	..	..	..		-	3	224	129	24	01
PNG	18.6S	22	10--	..	..	..	..	23(4)	6	12	150	90	24	04
HER	33.7S	22	1800	..	..	..	..	22(7,8)	5	20	126	73	24	03
GNA	43.2S	22	00--	..	..	..	..	22(8) 23(4,5,6)	5	21	130	150	24	00
TOO	46.7S	22	04--	..	..	..	..	23(4)	6	28	150	70	26	12
HYB	07.6N	24	2200	..	..	..	..	25(6,8) 26(2,3)	4	6	124	47	26	21
ABG	09.5N	29	18--	..	..	..	..	31(5)	6	4	155	35	01	19
ANN	01.5N	29	18--	..	..	..	..		-	4	217	61	01	19
TRD	01.1S	29	18--	..	..	..	..		-	3	251	114	01	19
COL	64.6N	30	1519	SC*	- 8	-73	-23	01(3)	6	--	--	--	01	19
COL	64.6N	30	1418	SC*	..	..	..	31(5,6)	6	188	990	920	01	19
NEW	55.1N	30	1520	SC	4	11	3	31(3)	5	26	101	104	02	01
WIT	54.2N	30	1520	SC	- 4	35	0	31(5,6)	5	26	135	62	31	23
FRD	49.6N	30	1520	SC	1	5	- 1	31(5)	5	14	105	41	--	--
HYB	07.6N	30	1519	SC	- .4	19	- 1	31(5,6)	6	4	175	29	01	20
GUA	04.0N	30	1520	..	..	..	..	31(5)	5	10	150	30	01	16
GNA	43.2S	30	1522	SC	1.3	18	9	30(8) 31(6)	5	19	80	120	01	18
TOO	46.7S	30	1521	SC	1.2	22	5	31(6)	5	20	110	30	01	18
KGL	56.5S	30	1521	SC	15	25	20	31(5)	6	--	--	--	01	18

REPORTS WERE RECEIVED FROM THE FOLLOWING OBSERVATORIES:

ALIBAG AMMAMALAINAGAR COLLEGE FREDERICKSBURG GNANGARA GUAM HERMANUS HYDERABAD JAIPUR
KERGUELEN NEWPORT PORT MORESBY SHILLONG SITKA TOOLANGI TRIVANDRUM UJJAIN WITTEVEEN

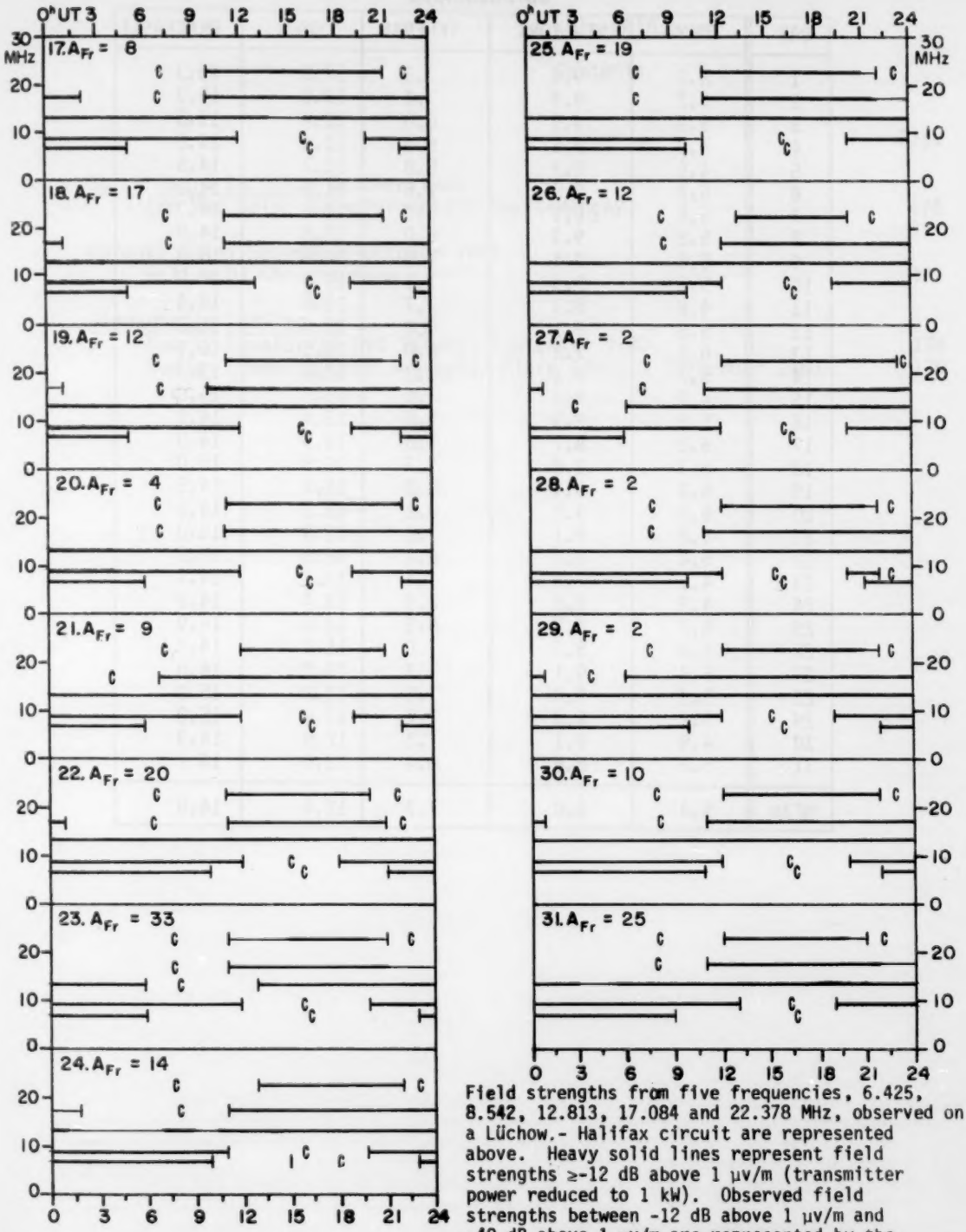
TRANSMISSION FREQUENCY RANGES -- NORTH ATLANTIC PATH

OCTOBER 1980



TRANSMISSION FREQUENCY RANGES -- NORTH ATLANTIC PATH

OCTOBER 1980



Field strengths from five frequencies, 6.425, 8.542, 12.813, 17.084 and 22.378 MHz, observed on a Lüchow.- Halifax circuit are represented above. Heavy solid lines represent field strengths ≥-12 dB above 1 μv/m (transmitter power reduced to 1 kW). Observed field strengths between -12 dB above 1 μv/m and -40 dB above 1 μv/m are represented by the fine line. **Adapted from Observations by Deutsche Bundespost**

RADIO PROPAGATION QUALITY INDICES

OCTOBER 1980

DAY	TOKYO	NEW YORK	TEHERAN	OSLO	BRACKNELL
1	6.2	9.6	7.9	12.8	15.3
2	6.2	9.9	7.1	13.0	15.3
3	5.9	9.5	8.0	12.4	15.3
4	4.9	8.8	6.9	11.4	14.6
5	4.5	8.2	8.0	11.7	14.6
6	5.2	8.8	7.6	11.5	14.2
7	5.6	9.1	8.0	11.6	14.7
8	5.8	9.3	8.0	12.5	14.9
9	5.6	9.4	7.8	12.6	14.8
10	5.5	9.0	7.5	12.5	14.8
11	4.8	8.3	7.7	12.0	14.4
12	5.8	9.1	8.0	12.6	15.0
13	6.3	9.2	8.0	12.5	15.1
14	5.7	9.1	8.3	12.6	15.4
15	4.9	9.3	7.6	13.2	15.0
16	5.5	9.3	7.6	12.4	14.8
17	6.1	8.7	7.6	12.9	14.9
18	5.3	8.8	7.7	12.5	15.0
19	5.3	8.4	8.8	11.7	14.5
20	5.6	9.1	8.2	12.2	14.8
21	5.8	9.1	7.6	12.9	15.0
22	5.4	8.7	5.4	12.6	14.3
23	4.5	7.9	7.4	11.7	14.4
24	4.9	8.9	7.9	13.4	14.9
25	5.1	8.3	6.9	12.9	14.9
26	4.8	8.7	7.6	11.9	14.7
27	5.3	9.1	7.3	13.2	14.8
28	5.1	9.0	7.5	13.0	15.0
29	5.2	9.4	7.7	12.9	15.0
30	4.9	9.1	7.3	12.6	14.9
31	5.2	8.8	8.4	12.0	14.7
MEAN	5.4	9.0	7.7	12.4	14.8

SGD 436 Part I (Prompt)

LATE DATA

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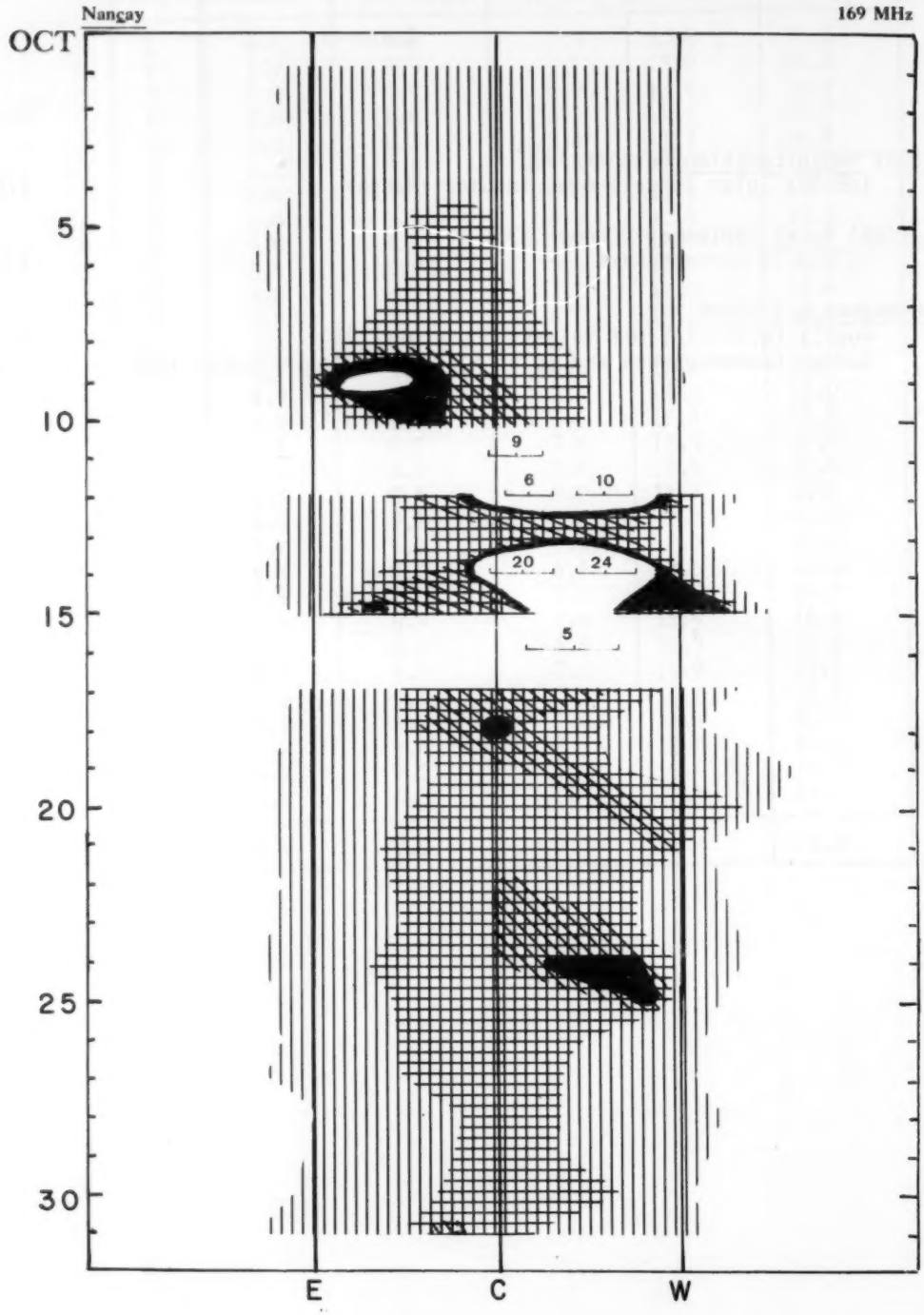
Oct 80

SOLAR RADIO EMISSION
INTERFEROMETRIC OBSERVATION

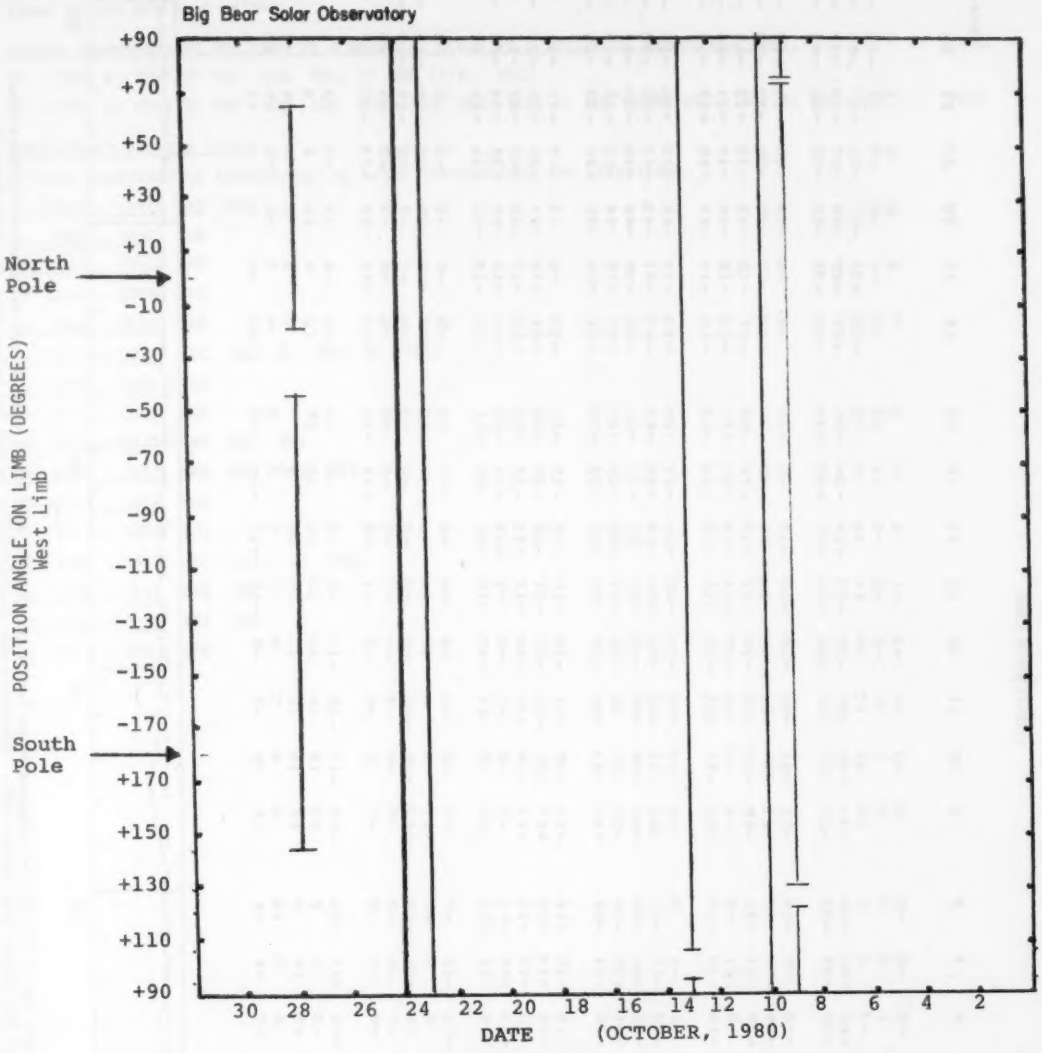
OCTOBER 1980



CORONAL HOLES

Helium D3 Chromosphere at Solar Limb

OCTOBER 1980



SEPTEMBER 1980

D3 limb observations were made during 2 days only in September 1980. These data are presented below numerically rather than graphically.

Position Angles of Coronal Hole Boundaries (in degrees):

Date	North	South
01 Sep 1980	-20° to -11° 59° to 51°	
11 Sep 1980	-40° to -45° 48° to 65°	

HOURLY EQUATORIAL Dst VALUES (PROVISIONAL

NASA/GODDARD SPACE FLIGHT CENTER

SEPTEMBER 1980

(Time-UT)

(Units-Gammas)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-6	-11	-11	-11	-9	-8	-8	-2	0	-3	-4	-3	-1	0	4	5	7	9	8	9	8	6	5	3
2	1	-1	-10	-11	-4	1	5	3	2	1	0	-2	-8	-9	-9	-8	-7	-7	-6	-7	-7	-10	-10	-10
3	-12	-13	-11	-9	-6	-3	0	6	10	11	13	14	11	14	8	-3	-20	-34	-47	-51	-47	-44	-43	-45
4	-53	-56	-49	-48	-51	-46	-42	-36	-31	-30	-29	-29	-30	-34	-34	-31	-27	-29	-29	-27	-28	-32	-33	-34
5	-30	-30	-31	-35	-38	-39	-37	-33	-31	-25	-25	-30	-32	-31	-30	-30	-30	-38	-46	-56	-62	-65	-60	-50
6	-42	-39	-38	-35	-29	-18	-8	-14	-11	-11	-16	-16	-14	-10	-2	-13	-5	-9	-14	-17	-19	-17	-21	-38
7	-43	-40	-32	-30	-30	-28	-27	-25	-23	-21	-22	-19	-22	-19	-18	-14	-13	-17	-25	-30	-32	-29	-22	-25
8	-35	-38	-41	-36	-33	-30	-27	-22	-18	-13	-14	-15	-17	-19	-16	-19	-17	-13	-12	-13	-13	-15	-12	-9
9	-8	-9	-11	-7	-11	-8	-11	-8	-4	-3	-10	-15	-16	-20	-23	-21	-18	-12	-16	-18	-21	-26	-31	-33
10	-28	-26	-22	-21	-19	-18	-18	-17	-16	-14	-14	-14	-14	-14	-13	-12	-12	-14	-15	-15	-17	-19	-18	-15
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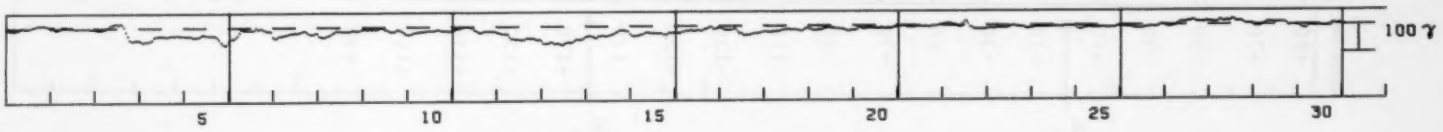
12	-28	-30	-32	-32	-33	-33	-40	-47	-48	-51	-48	-50	-52	-53	-50	-42	-45	-47	-43	-43	-50	-53	-49	-55
13	-64	-63	-64	-61	-55	-61	-66	-64	-61	-65	-70	-68	-60	-56	-58	-61	-55	-50	-46	-49	-50	-47	-41	-37
14	-35	-34	-35	-39	-45	-41	-35	-34	-33	-34	-36	-34	-32	-30	-28	-24	-20	-16	-14	-14	-15	-19	-24	-34
15	-38	-40	-35	-34	-32	-29	-31	-24	-22	-23	-26	-27	-26	-28	-28	-30	-31	-34	-35	-31	-23	-24	-25	-23
16	-24	-25	-25	-20	-20	-16	-18	-16	-14	-18	-17	-15	-14	-20	-15	-12	-10	-8	-3	-7	-15	-11	-8	-6
17	-9	-16	-19	-20	-17	-15	-13	-10	-17	-24	-32	-27	-37	-38	-33	-35	-31	-29	-27	-28	-26	-24	-22	-20
18	-20	-21	-24	-22	-20	-20	-19	-19	-17	-14	-13	-14	-12	-13	-14	-13	-15	-17	-22	-23	-17	-12	-9	-10
19	-14	-19	-22	-18	-15	-13	-14	-11	-9	-8	-7	-9	-9	-10	-11	-11	-12	-14	-18	-22	-24	-22	-16	-16
20	-17	-13	-6	-9	-15	-14	-12	-10	-10	-9	-12	-13	-10	-12	-12	-11	-16	-15	-14	-14	-10	-7	-3	-2
21	-2	-2	-1	-2	-7	-11	-10	-7	-5	-5	-4	-4	-5	-6	-3	-5	-5	-5	-2	-3	-2	0	3	2
22	4	6	6	7	2	2	0	-6	-11	-8	4	12	14	0	-6	-13	-17	-16	-19	-18	-18	-17	-13	-13
23	-12	-14	-12	-12	-11	-9	-11	-12	-13	-11	-12	-7	-3	-2	-2	-5	-6	-7	-7	-12	-15	-14	-12	-10
24	-9	-7	-5	-6	-7	-7	-8	-7	-7	-6	-7	-7	-5	-5	-6	-8	-6	-4	-3	-3	-4	-3	-4	-8
25	-16	-19	-20	-13	-10	-9	-8	-8	-9	-9	-9	-9	-9	-8	-12	-12	-13	-14	-14	-13	-10	-7	-4	-4
26	-5	-9	-9	-8	-9	-10	-15	-16	-17	-17	-15	-12	-9	-8	-7	-6	-6	-6	-8	-7	-3	1	1	-2
27	-7	-12	-9	-6	-4	-3	3	7	10	10	10	10	13	12	15	16	10	6	10	9	8	8	13	7
28	11	10	4	9	11	15	15	9	12	15	12	13	19	16	7	7	8	6	2	-3	-4	0	-2	-3
29	-10	-12	-12	-7	-2	0	5	10	9	4	5	4	5	4	3	8	4	0	-8	-6	-6	-5	-3	-5
30	-11	-15	-18	-20	-13	-7	-4	-6	-6	-5	-7	-8	-10	-11	-10	-9	-8	-4	3	3	-4	1	2	-2



Note: The baselines for H for the Dst observatories have been changed from those used in the calculation of Provisional Hourly Equatorial Dst Values for August 1980. Therefore the discontinuity in the Dst value from the last hour of August 31 to the first hour of September 1 is artificial.

SUDDEN COMMENCEMENTS AND SOLAR FLARE EFFECTS

SEPTEMBER 1980

PRELIMINARY REPORT ON RAPID MAGNETIC VARIATIONS

The meaning of the station symbols is given in the IAGA-Bulletin nr. 32h, page 106-116.
Times of ssc are mean values.

Sudden commencements followed by a magnetic storm or a period of storminess (ssc)

03 1336: A: HUA; B: DOU AQU TOL; C: EBR (b:B: MPO)

20 0139: A: MPO; B: WNG WIT DOU VIC FUR AQU DUM; C: NGK CZT KGL (si: A: EBR HUA; C: TOL)

Solar-flare effects (sfe)

Effects confirmed by ionospheric or solar observations are underlined.

01 0522 - 0548 HAZ KNY
01 1927 - 1937 HUA
02 0644 - 0722 HAZ
02 0757 - 0806 MPO
03 0400 - 0444 HAZ
04 0157 - 0212 HAZ (bp: A: MPO; B: TOL)
04 2214 - 2224 HUA
08 0455 - 0520 MMB
08 0502 - 0517 KAK HAZ KNY
08 0524 - 0557 MMB KAK HAZ KNY
08 1911 - 1917 HUA
09 1617 - 1646 TOL
17 1006 - 1013 MPO (ssc: C: KGL)
23 0439 - 0455 HAZ KNY
27 0120 - 0132 KAK HAZ
27 0818 - 0833 MPO

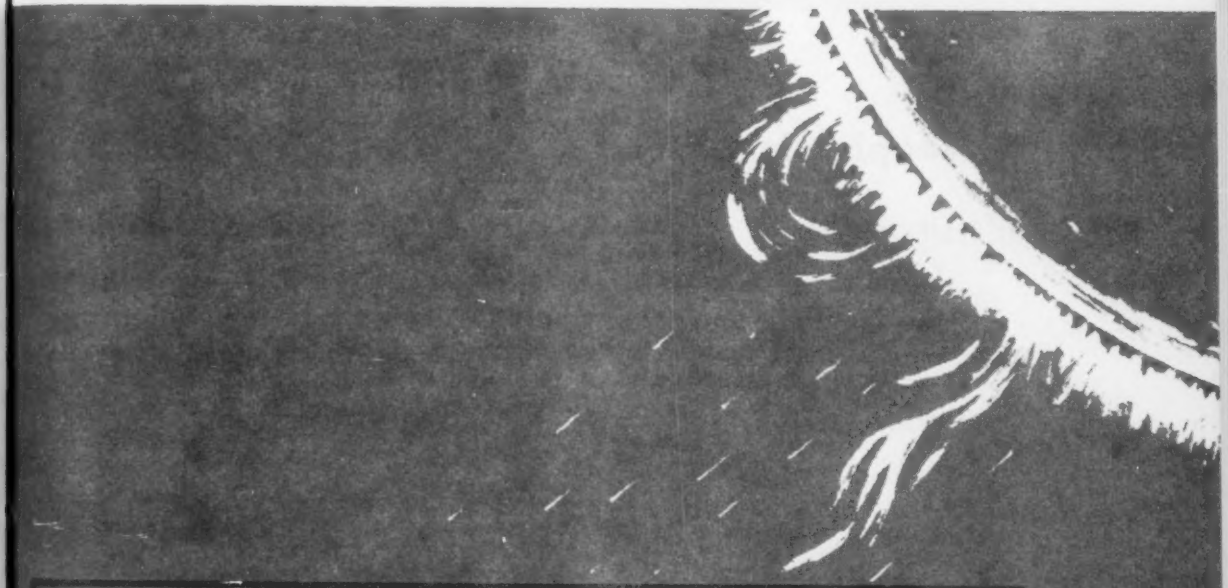
astronomy
QB1.U57
No.436 pt.2
P.A. STACKS
FEB 12 1981

ECEMBER 1980 NUMBER 436 -- Part II

Solar-Geophysical Data comprehensive reports

ata for June 1980, August 1979 & Miscellanea

planation of Data Reports Issued as Number 426 (Supplement) February 1980



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oaa NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION / ENVIRONMENTAL DATA AND INFORMATION SERVICE / BOULDER, COLORADO

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Philip M. Klutznick, Secretary
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
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Solar - Geophysical Data

NO. 436 DECEMBER 1980

Part II (Comprehensive Reports)

DATA FOR
JUNE 1980
AUGUST 1979

NATIONAL GEOPHYSICAL AND SOLAR - TERRESTRIAL DATA CENTER
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To standardize referencing these reports in the open literature, the following format is recommended:
Solar-Geophysical Data, 426 Part I (or Part II), pages, February 1980, U.S. Department of Commerce (Boulder, Colorado, U.S.A. 80303).

SOLAR-GEOPHYSICAL DATA

No. 436

Issued in two parts

Helen E. Coffey, Editor

J. Virginia Lincoln, Chief
Solar-Terrestrial Physics Division

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DETAILED COVERAGE FOR 1979-86 PUBLISHED IN "SOLAR-GEOPHYSICAL DATA"

		1979 Nov	Dec	1980 Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
A.	SOLAR AND INTERPLANETARY PHENOMENA													
A.1	Sunspot Drawings	425A 48	426A 50	427A 50	428A 44	429A 42	430A 52	431A 48	432A 50	433A 48	434A 46	435A 50	436A 50	
A.2a	Zurich Provisional Relative Sunspot Numbers Rz	424A 11	425A 11	426A 10	427A 9	428A 10	429A 9	430A 11	431A 11	432A 11	433A 11	434A 11	435A 11	436A 11
A.2b	Zurich Final Sunspot Numbers Rz	420A 9	421A 9											
A.2c	American Relative Sunspot Numbers RA	424A 11	425A 11	426A 10	427A 9	428A 10	429A 9	430A 11	431A 11	432A 11	433A 11	434A 11	435A 11	436A 11
A.3a	Mt. Wilson Magnetograms	425A 48	426A 50	427A 44	428A 42	429A 42	430A 52	431A 48	432A 50	433A 48	434A 46	435A 50	436A 50	
A.3b	Mt. Wilson Magnetic Characteristics of Sunspots	425A108	426A150	427A112	428A102	429A104	430A112	431A110	432A110	433A110	434A108	435A110	436A112	
A.3c	Kitt Peak Magnetograms	425A 48	426A 50	427A 50	428A 44	429A 42	430A 52	431A 48	432A 50	433A 48	434A 46	435A 50	436A 50	
A.3d	Mean Solar Magnetic Field (Stanford)	424A 40	425A 36	426A 38	427A 36	428A 34	429A 35	430A 44	431A 41	432A 42	433A 40	434A 38	435A 42	436A 42
A.3e	Stanford Magnetograms	425A 48	426A 50	427A 50	428A 44	429A 42	430A 52	431A 48	432A 50	433A 48	434A 46	435A 50	436A 50	
A.4	H-alpha Filtergrams	425A 48	426A 50	427A 50	428A 44	429A 42	430A 52	431A 48	432A 50	433A 48	434A 46	435A 50	436A 50	
A.5	Calcium Plage Drawings - Mt. Wilson	425A 46	426A 50	427A 50	428A 44	429A 42	430A 52	431A 48	432A 50	433A 48	434A 46	435A 50	436A 50	
A.5a	Calcium Plage (Mt. Wilson) and Sunspot Regions	425A108	426A150	427A112	428A102	429A104	430A112	431A110	432A110	433A110	434A108	435A110	436A112	
A.5b	Mt. Wilson Daily Calcium Plage Indices	425A121	426A112	427A122	428A112	429A115	430A123	431A121	432A128	433A127	434A125	435A127	436A127	
A.6	H-alpha Synoptic Charts	425A 40	426A 42	427A 42	428A 38	429A 39	430A 48	431A 44	432A 46	433A 44		435A 46	436A146	
A.6b	Synoptic Chart and Active Regions (Paris)	432B 42	432B 43	434B 14		436B 96	436B 97							
A.6c	Stanford Solar Magnetic Field Synoptic Charts	425A 42	426A 44	427A 44	428A 40	429A 40	430A 49	431A 45	432A 47	433A 45	434A 43	435A 47	436A 47	
A.6d	Kitt Peak Solar Magnetic Field Synoptic Charts	425A 44	426A 46	427A 46	428A 42	429A 41	430A 50		432A 48	433A 46	434A 44	435A 48	436A 48	
A.6e	Mass Ejections from the Sun			436B 93	436B 94	434B 56	435B 05	435B 47	436B 46					
A.7f	Helium D3 Chromosphere (Big Bear)	425B 28	425A 37	426A 39	427A 39	428A 35	429A 36	430A 41	432A167	432A 37	433A 35	436A177	436A177	436A 39
A.7g	Helium Synoptic Maps (KPNO)	425A 47	426A 48	427A 48		431A162	430A 51	431A 46	432A 49	433A 47	434A 45	435A 49	436A 49	
A.7h	Coronal Line Emission (Sac Peak)	425A 48	426A 50	427A 50	428A 44	429A 42	430A 52	431A 48	432A 50	433A 48	434A 46	435A 50	436A 50	
A.8aa	2800 MHz - Daily Values of Solar Flux (ARO-Ottawa)	424A 11	425A 11	426A 10	427A 9	428A 10	429A 9	430A 11	431A 11	432A 11	433A 11	434A 11	435A 11	436A 11
A.8ac	2800 MHz - Daily Values of Adj. Solar Flux (ARO-Ottawa)	424A 11	425A 11	426A 10	427A 9	428A 10	429A 9	430A 11	431A 11	432A 11	433A 11	434A 11	435A 11	436A 11
A.8g	Daily Values of Adjusted Solar Flux (AFGL)	424A 11	425A 11	426A 10	427A 9	428A 10	429A 9	430A 11	431A 11	432A 11	433A 11	434A 11	435A 11	436A 11
A.9cb	8.6 cm Radio Maps of the Sun (NOSC - La Posta)	425A 48	426A 50	427A 50	428A 44	429A 42	430A 52	431A 48		433A 48	434A 46	435A 50	436A 50	
A.9d	2 cm Radio Maps of the Sun (NOSC - La Posta)	425A 48	426A 50	427A 50	428A 44	429A 42	430A 52	431A 48		433A 48	434A 46	435A 50	436A 50	
A.10a	169 MHz - Interferometric Observations (Nancay)	424A 25	426A148	426A 23	427A 23	428A 20	429A 22	430A 26	432A166	432A 24	433A 22	434A 25	436A176	
A.10c	21 cm East-West Solar Scans (Flours)	424A 28	425A 27	426A 26	427A 26	429A150	429A 25	430A 29	431A 28	432A 27	433A 25	434A 28	435A 30	436A 29
A.10d	43 cm East-West Solar Scans (Flours)	424A 29	425A 28	426A 27	427A 27	429A151	429A 26	430A 30	431A 29	432A 28	433A 26	434A 29	435A 31	436A 30
A.10e	10.7 cm East-West Solar Scans (Ottawa-NRO)	424A 27	425A 26	426A 25	427A 25	428A 22	430A175	430A 28	431A 27	432A 26	433A 24	434A 27	435A 29	436A 28
A.10f	3 cm East-West Solar Scans (Toyokawa)	424A 26	425A 25	426A 24	427A 24	428A 21	429A 23	430A 27	431A 26	432A 25	433A 23	434A 26	435A 28	436A 27
A.11g	Solar X-ray (SMS/GOES) (graphs)	429B 26	430B 16	431B 27	432B 30	433B 26	434B 6	435B 41	436B 41			*		
A.12bb	Cosmic Ray Protons (Pioneers 8 & 9)	---	---	426A 32	427A 33	428A 29	429A 32	431A160	431A 38	432A 38	---	---	---	---
A.12c	Energetic Solar Particles (IMP H & J)	429B 37	434B 50											
A.13a	Solar Wind (Pioneers 6 & 7)	---	---	---	427A 32	428A 27	429A 32	---	431A 38	432A 39	433A 36	---	---	---
A.13ab	Solar Wind (Pioneers 8 & 9)	---	---	426A 32	427A 33	428A 28	429A 32	431A160	431A 38	432A 38	433A 37	---	---	---
A.13d	Solar Wind from IPS Measurements	424A 37	426A146	426A 34	427A 35	428A 30	430A164	430A 37	431A 36	432A 34	433A 31	434A 34	435A 37	436A 37
A.13e	Solar Plasma (IMP H & J)	429B 25	430B 15	431B 36	432B 29	435B 50	434B 5	436B100	436B 40					
A.13f	Solar Wind (Pioneer 12 (Venus))	424A 36	425A 32	426A 33	427A 34	428A 29	429A 33	431A161	431A 39	432A 39	433A 37	435A160	435A 43	436A 43
A.17	Interplanetary Magnetic Field (Pioneer 9)	---	---	426A 32	427A 33	428A 28	429A 32	431A160	431A 38	432A 38	433A 37	---	---	---
A.17	Interplanetary Magnetic Field (Pioneer 12)	425B 29	426A116	---	---	429A119	430A127	431A125	432A132	433A131	---	---	436A132	
A.17c	Inferred IP Magnetic Field	424A 38	425A 34	426A 36	427A 36	428A 32	430A 42	430B 42	432A 40	432A 40	433A 38	436A 40	436A 40	436A 40
A.18	Interplanetary Electric Field (Pioneer 9)	---	---	426A 32	427A 33	428A 28	429A 32	431A160	431A 38	432A138	---	---	---	---
B.	IONOSPHERIC (AND RADIO WAVE PROPAGATION) PHENOMENA													
B.52	Graphs of Transmission Frequency Range	425A152	426A142	427A154	428A140	429A146	430A160	431A156	432A162	433A154	434A154	435A156	436A172	
B.53	Quality Figures Based on Frequency Ranges	425A151	426A141	427A153	428A139	429A148	430A159	431A155	432A164	433A156	434A153	435A158	436A174	
C.	FLARE-ASSOCIATED EVENTS													
C.1a	Optical Observations Flares	424A 15	425A 15	426A 15	427A 14	428A 15	429A 14	430A 16	431A 16	432A 16	433A 16	434A 16	435A 16	436A 16
C.1ba	Optical Observations Flares (Standardized Data)													
C.1d	Flare Patrol Observations	424A 24	425A 24	427A158	427A 22	---	---	430A 46	431A 25	432A 23	433A 21	434A 24	436A 27	436A 26
C.1d	Flare Patrol Observations													
C.1e	Flare Indices (by day)													
C.1f	Flare Indices (by Region)													
C.3	Solar Radio Waves - Outstanding Occurrences	429B 5	430B 5	431B 5	432B 5	433B 5	435B 51	435B 5	436B 5					
	Solar Radio Waves - Fixed Frequencies - Selected	424A 30	425A 29	426A 28	427A 28	428A 23	429A 27	430A 31	431A 30	432A 29	433A 27	434A 30	435A 32	436A 31
C.4a	Solar Radio Spectral Obs. (Fort Davis)	426A153	426A117	427A126	428A116	429A120	430A128	431A126	432A133	433A132	434A129	435A131	436A133	
C.4d	Solar Radio Spectral Obs. (Culgoora)	425A125	426A117	427A126	428A116	429A120	430A128	431A126	432A133	433A132	434A129	435A131	436A133	
C.4e	Solar Radio Spectral Obs. (Weissenau)	425A125	426A117	427A126	428A116	429A120	430A128	431A126	432A133	434A177	434A129	435A131	436A133	
C.4f	Solar Radio Spectral Obs. (Sagamore Hill)	---	---	---	---	429A120	430A128	431A126	433A150	433A132	434A129	435A131	436A133	
C.4h	Solar Radio Spectral Obs. (Dwingeloo)	426A125	427A117	427A126	429A116	429A120	430A128	431A126	432A133	433A132	434A129	435A131	436A133	
C.4i	Solar Radio Spectral Obs. (Bleien)	425A125	426A117	427A126	428A116	429A120	430A128	431A126	432A133	434A177	434A129	435A131	436A133	
C.4j	Solar Radio Spectral Obs. (Manila)	425A125	426A117	427A126	---									
C.4k	Solar Radio Spectral Obs. (Learmonth)	425A125		427A126	428A116	429A120	430A128	431A126	433A158	433A132	434A129	435A131	436A133	
C.4l	Solar Radio Spectral Obs. (Palehua)	425A125		427A126	428A116	429A120	430A128	431A126	433A158	433A132	434A129	435A131	436A133	
C.5e	Solar X-ray (SMS/GOES) (graphs)	429B 26	430B 16	431B 27	432B 30	433B 26	434B 6	435B 41	436B 41					
C.6	Sudden Ionospheric Disturbances	425A122	426A113	427A123	428A113	429A116	430A124	431A122	432A129	433A128	434A126	435A128	436A128	
D.	GEOMAGNETIC AND MAGNETOSPHERIC PHENOMENA													
D.1a	Geomagnetic Indices Kp, Km, Ks, Kn, Ap, as, Cp	425A144	426A133	427A148	429A154	429A142	430A155	431A151	432A158	433A150	434A147	435A152	436A166	
D.1ba	27-day Chart of Kp Indices	425A146	426A135	427A150	428A137	429A144	430A157	431A153	432A160	433A152	434A149	435A154	436A168	
D.1c	27-day Chart of C9	426A136	426A136											
D.1ca	as graph 1868 - present	426A137	426A137											
D.1d	Principal Magnetic Storms	425A149	426A140	427A151	428A138	429A145	430A158	431A154	432A161	433A153	434A152	435A155	436A171	
D.1e	Reduced Magnetograms													
D.1f	Sudden Commencement and Solar Flare Effects	425A150	427A164	427A152	431A168	431A168	431A169	433A168	433A168	434A188	435A164	436A179		
D.1g	Equatorial Indices Dst	425A148	426A139	425A147	429A155	431A166	431A167	433A167	434A186	434A187		436A178	436A168	
D.1h	Geomagnetic Substorm Log (Boulder)	424A 41	425A 38	426A 40	427A 40	425A 36	429A 37	430A 46	431A 42	432A 43	433A 41	434A 40	435A 44	436A 44
F.	COSMIC RAYS													
F.1a	Cosmic Ray Neutron Counts (Deep River)	427A159	427A159	428A146	429A153	429A137	430A154	432A170	433A165	434A183	434A146	435A151	436A165	
F.1b	Cosmic Ray Neutron Counts (Climax)	425A143	426A132	428A146	428A134	430A167	430A154	431A150	433A165	433A147	435A161		436A165	
F.1c	Cosmic Ray Neutron Counts (Alert)	427A159	427A159	428A146	429A153	429A137	430A154	432A170	433A165	434A183	434A146	435A151	436A165	
F.1h	Cosmic Ray Neutron Counts (Thule)	425A143	426A132	427A147	428A134	429A137	430A154	431A150	432A155	433A147	434A146	435A151	436A165	
F.1i	Cosmic Ray Neutron Counts (Kiel)	425A143	426A132	427A147	428A134	429A137	430A154	431A150	432A155	433A147	434A146	435A151	436A165	
F.1j	Cosmic Ray Neutron Counts (Tokyo)	425A143	426A132	427A147	428A134	429A137	430A154	431A150	430A155	433A147	434A146	435A151	436A165	
F.1k	Cosmic Ray Neutron Counts (Kula)			---	---	---	---	---	---	---	---	---	---	
F.1l	Cosmic Ray Neutron Counts (Huancayo)	426A177	427A159	428A146	430A167	430A167	431A163	433A165	435A161					
H.	MISCELLANEOUS													
H.60	IUWDS Alert Decisions	424A 4	425A 4	426A 4	427A 4	428A 4	429A 4	430A 5	431A 5	432A 5	433A 5	434A 5	435A 5	436A 5
H.62	Abbreviated Calendar Record													

Notes:

"425A 48" listed under 1979 Nov means that the sunspot drawings for Nov 1979 were contained in *Solar-Geophysical Data* Number 425 - Part I, beginning on page 48.

A = Part I, B = Part II.

----- = no data available.
blank = data not yet received.

SGD 436 Part II (Comprehensive)

JUNE 1980 DATA

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NOTE ON DELAY OF GROUPED SOLAR FLARE DATA:

Beginning with the July 1980 issue of *Solar-Geophysical Data*, we planned to publish the final listing of solar flares 13 months, rather than 6 months, from the date of observation. Although this schedule has not been met since the July 1980 issue was published, we and our colleagues at the Meudon Observatory plan to return to the 13-month delay as soon as possible. This new schedule will cause the Daily Flare Index and the Regional Flare Index to appear 13 and 14 months from the date of observation. At the same time we are suspending indefinitely publication of the Abbreviated Calendar Record. We deeply regret this situation, but the volume of data recorded during sunspot maximum and computer conversion problems at the Meudon Observatory and at NGSDC have forced these greater delays on us.

For researchers who need the comprehensive solar flare data more promptly, NGSDC has available "preliminary" listings from September and October 1979. These complete tabulations lack the final Meudon corrections, and will only be published after they have been made. Nevertheless, printouts for the September-October 1979 period are available on request, if they be recognized as "preliminary" when used in research projects. A fee may be charged for reproducing these data. Please contact the editor, Helen E. Coffey, at (303) 497-6223 or telex SOLTERWARN BLDR 45897.

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

JUNE 1980

DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1}		INT	POLARIZATION OR REMARKS
					UT	UT	MINUTES	PEAK	MEAN		
01	200	GORK	44	NS	0252.0E		420.0D		5		
	204	IZMI	44	NS	0600.0E		360.0D	50			
	200	HIRA	43	NS	0640.0E	0830	180.0D	10	5		ML
	260	ONDR	44	NS	0650.0E		443.0D	44	3		
	100	HIRA	43	NS	0800.0E	0826	120.0D	40	5		WL
	100	GORK	43	NS	0806.0		105.0		5		
	3750	TYKW	5	S	0059.0	0101.3	12.0	7	2		
	2000	TYKW	5	S	0059.0	0101.3	12.0	3	1		
	2695	PENT	1	S	0100.0	0101.5	5.0	6.8	3.4		
	3750	TYKW	5	S	0117.0	0118.8	6.0	3	1		
	100	GORK	41	F	0452.6	0452.8	1.5	170 D			
	100	GORK			0452.6	0453.8		170			
	650	GORK	28	PRE	0710.9	0711.2	1.0	3	1.5		
	2950	GORK	41	F	0712.0	0713.6	11.0	23			
	2950	GORK			0712.0	0718.7		12.6			
	2950	GORK			0712.0	0721.2		10.5			
	3750	TYKW	5	S	0712.0	0713.5	4.0	24	4		
	3100	CRIM	3	S	0712.5	0714.0	4.0	24	7		
	650	GORK			0713.0	0721.0		68			
	650	GORK	46	C	0713.0	0713.6	10.5	68			
	536	ONDR	41	F	0713.0	0719.2	10.0	260	12		
	808	ONDR	41	F	0713.0	0718.8	9.0	25	3.5		
	5000	BERN	3		0713.0	0713.3	20.0	19.0			
	1470	POTS	40	F	0713.0	0721.0	9.0	17			
	2000	TYKW	5	S	0713.0	0713.6	3.0	14	3		
	9400	TYKW	45	C	0713.0	0720.2	10.0	7	2		
	810	KRAK	8	S	0713.0	0713.0	.2	120			
	430	KRAK	8	S	0713.3	0713.5	.7	60			
	1000	TYKW	5	S	0713.3	0713.5	2.0	5	2		
	9100	GORK	20	GRF	0713.3	0720.2	8.3	10			
	950	GORK	1	S	0713.4	0713.6	1.5	4.5	2		
	5730	IRKU	1	S	0714.3	0714.5	2.0	16	5		L
	3750	TYKW	45	C	0717.0	0718.7	3.0	10	2		
	950	GORK			0717.8	0721.1		13			
	950	GORK	46	C	0717.8	0719.4	4.3	17			
	2000	TYKW	45	C	0718.0	0718.7	2.0	15	5		
	1000	TYKW	45	C	0718.0	0719.3	2.0	27	2.5		
	430	KRAK			0718.0	0720.5		1400 D			
	430	KRAK	46	C	0718.0	0719.0	4.5	1400 D			
	3100	CRIM			0718.5	0720.0					
	3100	CRIM	41	F	0718.5	0719.0	4.0	16	5		
	810	KRAK	8	S	0718.7	0718.7	.1	70			
	2000	TYKW	45	C	0720.0	0721.2	2.0	18	2		
	1000	TYKW	45	C	0720.0	0721.0	2.5	28	3		
	3750	TYKW	45	C	0720.0	0721.2	1.5	11	2		
	810	KRAK	8	S	0720.5	0720.5	.3	60			
	2000	TYKW	20	GRF	0730.0	0740	60.0U	2	1 U		
	3750	TYKW	20	GRF	0730.0	0740	60.0U	5	2 U		
	650	GORK	1	S	0735.2	0736.0	1.0	2			
	950	GORK	1	S	0735.6	0735.9	.4	2	1		
	430	KRAK	8	S	0852.0	0852.0	.2	17			
	2950	GORK	20	GRF	0857.0	0901.5	20.8	7.4	3.5		
	9100	GORK	20	GRF	0857.7	0903.5	27.4	8	4		
	430	KRAK	8	S	0910.0	0910.0	.1	29			
	930	BORD	8	S	1001.1	1001.1	.1	16	1		
	11800	BERN	3		1045.0	1046.0	3.0	10.0			
	5000	BERN	3		1045.0	1046.0	3.0	12.0			
	8400	BERN	3		1045.0	1046.0	3.0	15.0			
	430	KRAK	8	S	1046.0	1046.3	.5	46			
	33	UPIC	42	SER	1057.1	1150.1	136.8				
	29	UPIC	42	SER	1057.2	1150.4	136.8				
	430	KRAK	8	S	1148.0	1148.0	.3	42			
	536	ONDR	42	SER	1156.0	1351.8	116.0	58			
	2800	OTTA	20	GRF	1200.0	1240	65.0	3.8	2.2		
	2800	OTTA	21	GRF	1334.0	1345	65.0	3.8			
	9400	HUAN		S	1334.6	1353.3	40.9	3.2	2.2		8
	2800	OTTA	1	S	1336.2	1336.9	1.3	4.6	2.3		
	7000	SAOP	4	S/F	1349.4	1350.1	3.0	36.0			9L
	9400	HUAN		S	1349.5	1350.1	1.8	20.9	11.0		L
	9500	POTS	3	S	1349.7	1350.1	1.8	19			
	5000	BERN	1		1349.7	1350.1	5.0	20.0			
	2800	OTTA	3	S	1349.8	1350.2	3.0	16.4	4.1		
	1470	POTS	1	S	1349.9	1350.1	2.1	5.5			
	9400	HUAN		S	1421.5	1433.2	27.2	12.8	4.2		L
	8400	BERN	3		1424.5	1428.5	16.0	34.0			
	11800	BERN	3		1424.5	1428.5	26.0	39.0			
	5000	BERN	3		1424.5	1428.5	16.0	24.0			
	2800	OTTA	4	S/F	1427.0	1428.3	4.0	13.4	4.0		
	7000	SAOP	45	C	1427.0	1428.6	7.8	49.0			18L,2 PARTS
	9400	HUAN		S	1427.3	1428.4	2.4	33.7	16.7		L

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

JUNE 1980

DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1}		INT	POLARIZATION OR REMARKS
					UT	UT	MINUTES	PEAK	MEAN		
01	9500	POTS	29	PBI	1427.5	1428.5	15.0	33			
	1470	POTS	1	S	1427.7	1428.5	1.8	3.5			
	9400	HUAN		S	1452.6	1455.0	12.8	4.8	1.8		0
	7000	SAOP	45	C	1518.8	1520.4	14.4	68.0			7L,4 PARTS
	8400	BERN	45		1519.0	1520.6	18.0	48.0			
	5000	BERN	45		1519.0	1520.2	18.0	33.0			
	11000	BERN	45		1519.0	1520.6	18.0	51.0			
	9400	HUAN		S	1519.6	1520.5	3.0	56.2	29.1		L
	2800	OTTA	4	S/F	1519.7	1520	3.0	16.0	7.6		
	930	BORD	8	S	1520.4	1520.4	.1	16	1		
	9400	HUAN	29	PBI	1522.6	1522.6	5.4	9.6	7.1		L
	2800	OTTA	2	S/F	1524.5	1525	2.5	3.0	2.2		
	2800	OTTA	2	S/F	1531.0	1533	3.5	3.0	1.4		
	2800	OTTA	21	GRF	1635.0	1645	75.0	3.8	1.9		
	7000	SAOP	3	S	1650.0	1652.0	7.4	19.0			13L
	2800	OTTA	1	S	1650.5	1652	2.0	7.6	3.0		
	9400	HUAN		S	1650.6	1651.6	2.2	11.2	5.6		0
	9400	HUAN	29	PBI	1652.8	1652.8	10.5	6.4	4.0		0
	2800	OTTA	1	S	1711.0	1711.8	2.8	2.2	1.1		
	9400	HUAN		S	1718.4	1719.7	3.9	14.4	7.1		L
	7000	SAOP	45	C	1718.5	1720.2	7.6	21.0			12L
	5000	BERN	1		1718.5	1720.0	6.0	10.0			
	9400	HUAN	29	PBI	1722.3	1722.3	10.4	3.2	3.0		0
	2800	OTTA	20	GRF	1815.0	1823	25.0	3.0	1.5		
	2800	OTTA	22	GRF	1910.0	1934	35.0	7.2	2.4		
	9400	HUAN		S	1926.5	1933.4	58.7	19.3	10.8		0
	2800	OTTA	1	S	2040.0	2040.5	1.0	7.6	3.4		
	9400	HUAN		S	2040.3	2040.8	2.4	12.8	7.0		L
	2800	OTTA	40	F	2049.0	2050.5	16.0	6.4			
	1000	TYKW	45	C	2056.0	2058.5	4.0U	135 U	5 U		
	2000	TYKW	45	C	2058.0	2058.5	1.0U	15 U	3 U		
	2000	TYKW	45	C	2238.0	2242.0	20.0	5	1.5		
	2800	OTTA	40	F	2238.8	2241.9	4.0	0.4			
	3750	TYKW	5	S	2241.0	2242.0	2.0	8	2		
02	100	HIRA	43	NS	0035.0	0140	300.0	90	20		SR
	200	HIRA	43	NS	0037.0	0140	340.0	40	15		MR
	200	GORK	44	NS	0257.0E		554.0D		5		
	100	GORK	44	NS	0257.0E		213.0D		5		
	260	ONDR	44	NS	0555.0E		495.0D	98	3		
	200	HIRA	44	NS	1920.0E	2100	270.0D	20	5		WR
	3750	TYKW	21	GRF	0011.0	0030	45.0	2	1		
	9400	TYKW	21	GRF	0011.0	0027	45.0	12	6		
	9400	TYKW	45	C	0011.0	0013.3	4.0	7	3		
	3750	TYKW	45	C	0012.0	0013.3	8.0	4	1		
	2000	TYKW	5	S	0111.9	0112.3	1.0	6	2		
	3750	TYKW	45	C	0112.0	0112.3	.5	6	2		
	2695	PENT	8	S	0112.0	0112.2	.3	8.2			
	100	GORK			0301.0	0306.8		100			
	100	GORK			0301.0	0304.8		100 D			
	100	GORK	41	F	0301.0	0302.9	7.0	100 D			
	2000	TYKW	45	C	0440.0	0520	60.0	2	1		
	3750	TYKW	45	C	0440.0	0519.6	60.0	8	2		
	2950	GORK	1	S	0517.0	0519.6	3.8	3.2	1.5		
	9100	GORK	1	S	0517.2	0519.6	3.6	10	5		
	3750	TYKW	45	C	0656.8	0722.3	70.8	32	9		
	430	KRAK	4	S/F	0657.0	0657.5	.7	470			
	9400	TYKW			0700.0U	0722.2		25 U			
	9400	TYKW	45	C	0700.0U	0740	70.0U	26 U	12 U		RAIN
	2000	TYKW	45	C	0711.0	0722.2	35.0	15	4		
	5000	BERN	20		0711.0	0722.2	32.0	24.0			
	9100	GORK	20	GRF	0711.5	0738.0	95.0	32	16		
	2950	GORK	20	GRF	0713.8	0722.5	34.0	22			
	430	KRAK	42	SER	0716.3	0736.0	20.5	50			
	3100	CRIM	3	S	0717.0	0723.0	15.0	120	40		
	200	GORK	27	RF	0719.2	0730.2	27.3	22			
	15000	KISV	27	RF	0720.0	0741	68.0	23			
	430	KRAK	8	S	0805.7	0806.0	.3	15			
	430	KRAK	8	S	0811.5	0811.5	.1	18			
	5000	BERN	21		0814.0	0822.0	36.0	20.0			
	3750	TYKW	5	S	0821.0	0822.3	2.0	22	8		
	2950	GORK	1	S	0821.4	0822.3	2.2	6.4	3.2		
	3100	CRIM	1	S	0822.0	0823.0	3.0	11	4		
	3750	TYKW	29	PBI	0823.0		10.0	4	2		
	430	KRAK	8	S	0825.0	0825.0	.3	24			
	430	KRAK	41	F	0834.5	0839.7	4.5	20			
	200	GORK	27	RF	0852.4	0906.4	27.0	75			
	430	KRAK	8	S	0853.8	0853.8	.3	34			
	204	IZMI	25	R	0854.0	0902.0	14.5	40	23		
	113	POTS	27	RF	0856.0	0909	42.0	16	6		RISE&I
	100	GORK	27	RF	0857.0	0908.5	40.0	230			
	228	HARS	27	RF	0858.0	0905.6	16.4	75	25		
	430	KRAK	1	S	0858.0	0858.5	1.0	10	5		
	5000	BERN	20		0859.0	0921.0U	90.0	10.0			
	3100	CRIM	1	S	0859.0	0901.0	7.0	6	2		

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DAY OF MONTH	FREQUENCY	STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY MEAN	INT	POLARIZATION OR REMARKS
02	2950	GORK	20 GRF	0859.2	0920.2	23.5U	6.4	3.2		
	29	UPIC	41 F	0900.0	0914.4	40.2				
	33	UPIC	41 F	0900.0	0914.3	41.6				
	1470	POTS	20 GRF	0901.0	0902	49.0	2.2			
	9500	POTS	20 GRF	0901.0	0936	84.0	16			
	9100	GORK	20 GRF	0916.3	0936.9	36.9	14	7		
	430	KRAK	8 S	0920.0	0920.3	.5	33			
	430	KRAK	8 S	0944.7	0944.7	.1	19			
	228	HARS	45 C	1033.0	1033.9	.8	120	30		
	430	KRAK	8 S	1034.0	1034.0	.1	130			
	33	UPIC	8 S	1034.3	1034.4	.3				
	29	UPIC	8 S	1034.4	1034.6	.4				
	2800	OTTA	23 GRF	1100.0	1412	300.0	12.2	7.0		
	5000	BERN	20	1139.0	1158.0U	40.0	6.0			
	9500	POTS	20 GRF	1146.0	1157	29.0	11			
	430	KRAK	47 GB	1202.0	1204.4	3.5	1100 D	500		
	536	ONDR	8 S	1202.6	1202.6	.2	28			
	200	GORK		1211.0	1213.6		55 D			
	200	GORK	46 C	1211.0	1211.4	3.5	55 D			
	810	KRAK	4 S/F	1213.3	1213.5	1.0	60			
	100	GORK	2 S/F	1213.5	1214.1	1.1	225			
	29	UPIC	42 SER	1213.5	1222.5	47.2				
	33	UPIC	42 SER	1213.6	1222.5	47.1				
	113	POTS	8 S	1238.0	1238.4	.1E	140	50		
	950	GORK	1 S	1255.9	1300.1	6.1	4	2		
	3100	CRIM	3 S	1257.0	1300.0	10.0	260	80		
	5000	BERN	20	1257.0	1259.5	32.0	20.0			
	650	GORK	2 S/F	1257.3	1257.6	5.1	9.5			
	810	KRAK	42 SER	1257.3	1257.5	3.0	160			
	7000	SAOP	45 C	1257.4	1259.4	31.2	34.0			12L
	113	POTS	4 S/F	1257.4	1257.4	.4	200	40		III
	808	ONDR	8 S	1257.4	1257.4	.2	52			
	9500	POTS	4 S/F	1258.0	1259.1	4.0	24			
	1470	POTS	1 S	1258.0	1259.3	4.0	2.9			
	2800	OTTA	3 S	1258.0	1300	6.0	21.2	8.4		
	2650	DWIN	1 S	1259.0	1300	6.0	20	10		
	9400	HUAN	S	1259.0	1259.4	2.5	19.7	11.1		L
	113	POTS	42 SER	1322.4	1330.2	8.2	100	1 E		
	113	POTS	42 SER	1350.0	1352.5	3.6	2700	40		III
	228	HARS	45 C	1352.0	1352.6	1.5	135	45		
	234	POTS	4 S/F	1352.5	1353.2	1.1	500	20		III
	1470	POTS	3 S	1353.0	1353.5	3.0	7.2			
	2800	OTTA	2 S/F	1353.0	1353.5	3.0	3.8	1.6		
	7000	SAOP	4 S/F	1353.0	1353.5	1.8	18.0			13L,2 PARTS
	9500	POTS	3 S	1353.4	1353.5	1.1	13			
	15000	KISV	4 S/F	1355.0	1354.5	4.0	17			
	9400	HUAN	S	1359.7	1423.5	34.5	9.0	3.0		0
	113	POTS	4 S/F	1407.0E	1407.0	.2D	1400	400		III
	113	POTS	4 S/F	1434.3	1434.4	.4	100	25		III
	29	UPIC	8 S	1434.5	1434.6	.4				
	33	UPIC	3 S	1434.5	1434.5	.4				
	930	BORD	8 S	1521.4	1521.4	.1	15	1		
	9400	HUAN	S	1549.4	1550.2	1.9	14.3	9.8		L
	9400	HUAN	29 PBI	1551.3	1551.3	17.8	3.6	2.4		0
	930	BORD	8 S	1627.1	1627.1	.1	15	1		
	2800	OTTA	27 RF	1705.0		170.0	3.0	2.6		
	2800	OTTA	24 R	1705.0	1725	20.0	3.0	1.5		
	930	BORD	8 S	1705.2	1705.2	.2	21	1		
	2800	OTTA	24P R	1725.0		130.0	3.0			
	2800	OTTA	26 FAL	1935.0	1955	20.0	-3.0	-1.8		
	2800	OTTA	1 S	2016.5	2018	6.0	2.6	1.0		
	3750	TYKW	45 C	2119.0	2133.8	30.0	85	23		
	1000	TYKW	45 C	2119.0	2121.2	4.0	5	1		
	2000	TYKW	45 C	2119.0	2136.6	25.0	38 U	11 U		
	2000	TYKW		2119.0	2133.9		30			
	9400	TYKW	45 C	2119.0	2133.8	40.0	74	20		
	2800	OTTA	21 GRF	2120.0	2205	95.0	4.2			
	9400	HUAN	S	2120.3	2136.3	36.5	53.7	25.9		L
	2800	OTTA	4 S/F	2126.0	2136.2	27.0	55.0	18.6		
	1000	TYKW	45 C	2129.0	2136.2	15.0	9 U	2 U		
	1000	TYKW		2129.0	2134		3.5			
	9400	HUAN	S	2131.7	2134.2	3.5	43.9	20.4		L
	2000	TYKW	29 PBI	2144.0		70.0	4	1.5		
	3750	TYKW	29 PBI	2149.0		70.0	11	6		
	9400	TYKW	29 PBI	2159.0		60.0	19	9		
	9400	TYKW	21 GRF	2319.0	2323	50.0	8	2.5		
	3750	TYKW	20 GRF	2325.0	2331	40.0	4	2		
	9400	TYKW	5 S	2357.0	2358.3	4.0	11	4		
03	260	ONDR	44 NS	0549.0E		505.0D	32			
	9400	TYKW	20 GRF	0010.0	0020	35.0	6	3		
	3750	TYKW	20 GRF	0011.0	0020	35.0	4	2		
	9400	TYKW	45 C	0056.0	0059.3	10.0	11	3		
	3750	TYKW	21 GRF	0113.0	0125	40.0	3	1		
	9400	TYKW	45 C	0114.0	0115	20.0	4	2.5		

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DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} MEAN	INT	POLARIZATION OR REMARKS
03	9400	TYKW			0114.0	0125		4			
	35000	NAGO	20	GRF	0118.0	0120	30.0	20			
	9400	TYKW	5	S	0140.0	0141.5	6.0	4	2		
	9400	TYKW	5	S	0146.7	0147.2	1.5	11	3		
	3750	TYKW	5	S	0147.0	0147.3	1.0	3	1		
	9400	TYKW	5	S	0149.0	0151	10.0	2	1		
	9400	TYKW	21	GRF	0208.0	0223.5	35.0	5	1.5		
	3750	TYKW	20	GRF	0208.0	0214	40.0	2	1		
	3750	TYKW	20	GRF	0415.0U	0435	40.0U	3	1.5		
	9100	GORK	21	GRF	0451.3	0810.1	379.0	25			
	3750	TYKW	20	GRF	0502.0	0540	140.0	4	2		
	2000	TYKW	20	GRF	0510.0	0540	80.0	1	.5		
	9100	GORK	1	S	0531.9	0532.2	1.1	8	4		
	15000	KISV	1	S	0532.0	0532.5	2.0	7			
	35000	NAGO	20	GRF	0539.0	0616	45.0	16			
	650	GORK	1	S	0617.2	0617.5	.5	8	3		
	9400	TYKW	5	S	0655.5	0656.2	2.0	5	2		
	536	ONDR	46	C	0743.0	0744.3	6.0	110	12		
	2950	GORK	20	GRF	0752.7	0809.6	25.0	10	5		
	5000	BERN	20		0753.0	0809.5	93.0	13.0			
	11800	BERN	20		0753.0	0810.3U	93.0U	18.0			
	8400	BERN	20		0753.0	0810.3	93.0U	18.0			
	3750	TYKW	21	GRF	0754.0	0810	66.0D	12	6 D		
	9400	TYKW	21	GRF	0754.0	0810	70.0D	16	8 D		
	2000	TYKW	20	GRF	0755.0	0810	65.0D	4	1.5D		
	9400	TYKW	5	S	0758.0	0758.6	1.5	6	2		
	3750	TYKW	5	S	0758.3	0758.6	1.0	2	.7		
	3100	CRIM	25	R	0800.0	0809.5		6			
	3100	CRIM	1	S	0800.5	0801.5	2.0	3	1		
	810	KRAK	8	S	0833.5	0833.5	.1	12			
	3750	TYKW	5	S	0836.0	0837	2.0	3	1		
	9400	TYKW	5	S	0836.0	0836.8	2.0	10	4		
	9100	GORK	1	S	0836.7	0837.4	1.6	12	6		
	950	GORK	2	S/F	0940.2	0941.0	5.9	6			
	810	KRAK	41	F	0940.3		2.7	4	1		
	650	GORK	22	GRF	0940.5	0941.0	8.5	6			
	5000	BERN	21		0941.0	0942.6	23.0	37.0			
	11800	BERN	21		0941.0	0942.0	23.0	17.0			
	2650	DWIN	1	S	0941.0	0943	4.0	25	15		
	8400	BERN	21		0941.0	0943.0	23.0	20.0			
	1470	POTS	1	S	0941.2	0943.0	3.8	5.8			
	9500	POTS	29	PBI	0941.5	0943.0	11.8	19			
	5730	IRKU	20	GRF	0941.8	0942.7	4.0	25	9		L
	3100	CRIM	3	S	0942.0	0943.0	4.0	20 D			
	2950	GORK	3	S	0942.0	0943.0	3.8	26	13		
	9100	GORK	1	S	0942.3	0949.2	3.1	18	9		
	15000	KISV	4	S/F	0943.0	0944	3.0	11			
	9500	POTS	21	GRF	1119.0	1213	131.0	22			
	9100	GORK	21	GRF	1131.9	1312.0	88.0E	24			
	7000	SAOP	45	C	1137.0		90.4				2 PARTS
	9500	POTS	4	S/F	1139.3	1142.5	9.7	53			
	11800	BERN	21		1140.0	1142.3	2.0	67.0			
	5000	BERN	21		1140.0	1142.5	10.0	21.0			
	10715	DWIN	2	S/F	1140.0	1143	5.0	25	10		
	19600	BERN	21		1140.0	1142.5	10.0	40.0			
	8400	BERN	21		1140.0	1142.5	3.0	42.0			
	9100	GORK			1140.1	1142.7		23			
	9100	GORK	46	C	1140.1	1141.5	6.1	48			
	15000	KISV	45	C	1142.0	1142.8	6.0	44			
	15000	KISV			1142.0	1244		18			
	7000	SAOP			1142.5E	1142.5		51.0			13L
	15000	KISV	26	FAL	1148.0	1208	52.0	-15			
	10715	DWIN	1	S	1204.0	1205	2.0	10	5		
	2000	OTTA	21	GRF	1204.0	1220	55.0	3.0	1.9		
	2650	DWIN	1	S	1204.0	1205	3.0	25	15		
	11800	BERN	21		1204.2	1205.3	60.0U	29.0			
	5000	BERN	21		1204.2	1205.3	60.0U	28.0			
	19600	BERN	21		1204.2	1211.5	60.0U	31.0			
	8400	BERN	21		1204.2	1205.3	60.0U	29.0			
	9400	HUAN		S	1204.5	1205.4	1.8	30.0	15.0		L
	9500	POTS	3	S	1204.7	1205.5	2.5	36			
	2000	OTTA	3	S	1204.7	1205.5	2.5	35.0	15.6		
	1470	POTS	1	S	1204.7	1205.5	3.3	5.3			
	2950	GORK	3	S	1204.7	1205.6	2.2	43	15		
	9100	GORK	1	S	1204.8	1205.6	1.9	38	14		
	7000	SAOP			1205.4E	1205.4		51.0			5L
	9400	HUAN	29	PBI	1206.3	1206.3	28.1	8.4	4.5		8
	2950	GORK	29	PBI	1206.9	1207.1	56.0E	5.7			
	15000	KISV	4	S/F	1208.0	1209.5	4.0	24			
	536	ONDR	8	S	1343.0	1343	.2	40			
	9500	POTS	1	S	1411.6	1414.0	3.9	5.3			
	5000	BERN	21		1411.8	1414.0	21.0	9.0			
	8400	BERN	21		1411.8	1414.9U	20.0U	11.0U			
	2000	OTTA	20	GRF	1500.0	1555	115.0	3.0	1.8		
	7000	SAOP	8	S	1521.4	1521.6	.2	36.0			13L

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DAY OF MONTH	FREQUENCY	STATION	TYPE	STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1}		INT	POLARIZATION OR REMARKS
				UT	UT	MINUTES	PEAK	MEAN		
03	930	BORD	20 GRF	1647.0	1654.8	22.0	19	6		
	2800	OTTA	20 GRF	1820.0	1850	70.0	3.0	1.5		
	2800	OTTA	240AR	2127.0	2250	80.0	4.0			
	2800	OTTA	46F C	2128.0	2130.3	13.0	88.8	33.2		
	2000	TYKW	45 C	2128.0	2130.3	30.0	70	15		
	3750	TYKW	45 C	2128.0	2130.6	30.0	95	20		
	9400	TYKW	45 C	2128.0	2130.8	30.0	430	70		
	17000	NOBE	45 C	2128.2	2130.8	40.0	414			L
	200	HIRA	46 C	2129.0	2135.3	77.0	1140	40		
	200	HIRA		2129.0	2147.5		290			
	1000	TYKW	45 C	2129.0	2141.1	27.0	75	15		
	100	HIRA	46 C	2129.3	2130.2	2.0	1400	130		
	2930	VOAD	45 C	2130.0	2137	13.0	66			
	500	HIRA	45 C	2130.1	2132.1	13.0	75	25		
	500	HIRA		2130.1	2133.9		35			
	2800	OTTA	30 PBI	2141.0	2141	65.0	8.4	7.0		
	2800	OTTA	46F C	2145.5	2152	14.0	14.2	4.8		
	9400	TYKW	29 PBI	2158.0		95.0	24	10		
	3750	TYKW	30 PBI	2158.0		90.0	9	4		
	2000	TYKW	30 PBI	2158.0		80.0	3	1.5		
	2800	OTTA	4 S/F	2222.5	2223.5	2.0	13.6	5.0		
	2000	TYKW	45 C	2222.8	2223.4	1.0	29	9		
	1000	TYKW	5 S	2223.0	2223.4	1.0	3	1		
	3750	TYKW	5 S	2223.0	2223.3	1.0	3	1		
	2800	OTTA	8 S	2224.9	2225	.2	6.2			
	3750	TYKW	5 S	2230.0	2236	10.0	3	1		
04	200	HIRA	43 NS	0240.0	0622	400.0D	60	25		WL
	200	GORK	44 NS	0325.0E		584.0D		15		
	100	HIRA	43 NS	0458.0	0706	308.0D	15	2		0
	234	POTS	44 NS	0540.0E	0932	394.0D	750			
	260	ONDR	44 NS	0550.0E		510.0D	135	5		
	536	ONDR	44 NS	0550.0E		510.0D	21			
	100	GORK	43 NS	0551.0		438.0		5		
	204	IZMI	44 NS	0600.0E		360.0D	260			
	113	POTS	43 NS	0820.0	0839	305.0	120			
	127	TORN	44 NS	1120.0E		90.0D		18		V0
	100	HIRA	43 NS	2317.0	2332	600.0D	110	5		WL
	200	HIRA	44 NS	2337.0E	0348	610.0D	50	15		WR
	2695	PENT	21 GRF	0000.0	0120	100.0D	5.0			
	2695	PENT	3 S	0002.0	0005.7	13.0	13.6	5.4		
	9400	TYKW	5 S	0002.0	0007 U	30.0	10 D	5 D		
	2000	TYKW	5 S	0002.0	0005.5	25.0	6	2 D		
	5730	IRKU	20 GRF	0002.5	0005.3	8.0	16	6		L
	3750	TYKW	5 S	0003.0E	0005.5	30.0D	20	5 D		
	9400	TYKW	20 GRF	0105.0	0130	50.0	5	2.5		
	3750	TYKW	20 GRF	0109.0	0112	40.0	2	1		
	9400	TYKW	21 GRF	0200.0	0240	110.0	11	5		
	9400	TYKW	45 C	0208.0	0212	7.0	8	3		
	3750	TYKW	20 GRF	0220.0	0240	90.0	4	2.5		
	1000	TYKW	45 C	0401.0	0401.6	1.0	22	4		
	9400	TYKW	20 GRF	0452.0	0515	60.0	5	2.5		
	200	GORK	27 RF	0454.0	0636.0	398.0	250			
	3750	TYKW	20 GRF	0500.0	0515	50.0	2	1		
	9400	TYKW	5 S	0602.3	0602.5	1.0	5	1.5		
	2950	GORK	21 GRF	0611.5	1030.0	390.0E	23			
	9400	TYKW	28 PRE	0613.0	0629.7	41.0	10	5		
	3750	TYKW	28 PRE	0613.0	0640	41.0	3	2		
	2000	TYKW	28 PRE	0613.0	0654.5	41.5	2.5	1		
	9100	GORK	21 GRF	0613.8	0922.6	390.0E	58			
	650	GORK	23 GRF	0616.0	1025.6	410.0E	15			
	100	GORK	8 S	0625.1	0625.3	.7	120 D			
	100	GORK	8 S	0648.7	0648.8	.3	120 D			
	9500	POTS	3 S	0653.0E	0654.8	9.0D	660			
	17000	NOBE	29 PBI	0653.8	0658.0	42.0	19			0
	17000	NOBE	46 C	0653.8	0654.8	4.2	940			L
	3100	CRIM	3 S	0654.0	0655.0	12.0	90	30		
	9400	TYKW	47 GB	0654.0	0654.9	6.0	870	200		
	3750	TYKW	5 S	0654.0	0655.0	11.0	170	35		
	8400	BERN	47	0654.1	0654.8	55.0	547.0			
	9100	GORK	8 S	0654.1	0654.9	2.8	850			
	11800	BERN	47	0654.1	0654.8	55.0	1048.0			
	35000	BERN	47	0654.1	0654.8	55.0	748.0			
	19600	BERN	47	0654.1	0654.8	55.0	1125.0			
	5000	BERN	23	0654.1	0654.8	55.0	252.0			
	2950	GORK	3 S	0654.3	0655.0	2.6	65			
	5730	IRKU	2 S	0654.3	0656.2	3.0	219			L
	1470	POTS	3 S	0654.5	0655.0	4.5	5.7			
	2000	TYKW	5 S	0654.5	0655.1	5.5	25	12		
	15000	KISV	4 S/F	0656.0	0657.5	11.0	350 D			
	5730	IRKU	29 PBI	0658.3		24.0	53			L
	9400	TYKW	30 PBI	0700.0		50.0	40	18		
	2000	TYKW	30 PBI	0700.0		50.0	5	4		
	3750	TYKW	30 PBI	0705.0		45.0	11	7		
	430	KRAK	42 SER	0731.0		24.0	30			

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DAY OF MONTH	FREQUENCY	STATION	TYPE	STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1}		INT	POLARIZATION OR REMARKS
				UT	UT	MINUTES	PEAK	MEAN		
04	9400	TYKW	2B PRE	0750.0	0810.7	34.5	70	30		
	2000	TYKW	2B PRE	0750.0	0821.0	34.5	35	12		
	3750	TYKW	2B PRE	0750.0	0810.7	34.5	60	20		
	3100	CRIM	2B PRE	0751.0	0759.0	15.0	6	2		
	950	GORK	2J GRF	0752.0	0943.3	308.0E	25			
	430	KRAK		0804.0U	0849.3		700			
	430	KRAK		0804.0U	0858.0		400			
	430	KRAK		0804.0U	0831.5U		1400 D			
	430	KRAK		0804.0U	0914.3		400			
	430	KRAK	49 GB	0804.0U	0820.7U	113.0	1400 D	120		
	430	KRAK		0804.0U	0823.7U		1400 D			
	3100	CRIM	47 GB	0806.0	0812.0	85.0	51	17		
	3100	CRIM	29 PBI	0806.0	0931.0	137.0	14			
	3100	CRIM		0806.0	0839.5		1590	550		
	15000	KISV	24 R	0806.0		18.0	19			
	9500	POTS	45 C	0807.0	0838	268.0	1200			
	1470	POTS	46 C	0807.0	0840.7	268.0	670			
	2650	DWIN	49 GB	0807.0		85.0	500 D			
	10715	DWIN	49 GB	0807.0		75.0	330 D			
	1000	TYKW	2B PRE	0807.0	0810.7	17.5	25	6		
	5000	BERN	47	0807.1	0840.5U	80.0D	1146.0D			
	950	GORK		0807.1	0923.2		142			
	950	GORK		0807.1	0915.0		128			
	950	GORK		0807.1	0840.0		317			
	950	GORK		0807.1	0859.3		162			
	950	GORK	47 GB	0807.1	0810.7	84.6	36			
	9100	GORK	47 GB	0807.4	0810.8	75.0	50			
	9100	GORK		0807.4	0912.3		46			
	9100	GORK		0807.4	0837.5		1650			
	9100	GORK		0807.4	0832.4		475			
	9100	GORK		0807.4	0827.8		110			
	8400	BERN	47	0807.7	0837.1	80.0D	1190.0			
	810	KRAK	41 F	0807.7	0810.5	4.5	22	5		
	2950	GORK		0807.8	0839.0		1420			
	2950	GORK	47 GB	0807.8	0810.8	70.0	23			
	2950	GORK		0807.8	0912.4		80			
	2950	GORK		0807.8	0832.5		490			
	2950	GORK		0807.8	0827.8		100			
	11800	BERN	47	0807.8	0837.1	80.0D	1200.0			
	650	GORK		0808.0	0831.5		550			
	650	GORK		0808.0	0832.0		520			
	650	GORK		0808.0	0833.7		420			
	650	GORK		0808.0	0841.5		370			
	650	GORK	47 GB	0808.0	0811.0	85.0	45			
	650	GORK		0808.0	0838.7		240			
	5730	IRKU	21 GRF	0808.5	0809.9	7.5	27	21		
	5730	IRKU		0808.5	0812.0		46			
	5730	IRKU		0808.5	0810.8		56			
	15000	KISV	28 PRE	0809.0	0811	3.0	13			
	200	GORK		0811.0	0833.0		2330			
	200	GORK	46 C	0811.0	0830.0	68.0	800 D			
	200	GORK		0811.0	0837.7		1740			
	19600	BERN	47	0811.0	0837.2	80.0D	1022.0			
	260	ONDR	49 GB	0816.5		27.0	202 D	105		
	810	KRAK	48 C	0817.5	0831.0	92.0	300	70		
	810	KRAK		0817.5	0859.0		220			
	810	KRAK		0817.5	0927 U		100			
	810	KRAK		0817.5	0913.5		110			
	810	KRAK		0817.5	0840.5		300			
	808	ONDR		0820.0	0859.3		136			
	808	ONDR		0820.0	0831.5		146			
	808	ONDR	49 GB	0820.0	0841	90.0	212	94		
	3750	TYKW		0824.5	0838.8		1700			
	3750	TYKW	47 GB	0824.5	0836.8	32.5	1850	650		
	9400	TYKW	47 GB	0824.5	0837.6	32.5	1550	500		
	2000	TYKW	47 GB	0824.5	0839.9	30.5	1170	480		
	1000	TYKW	45 C	0824.5	0840.8	26.5	470	200		
	100	GORK	46 C	0824.7	0827.5	8.3	160			
	100	GORK		0824.7	0836.8		360			
	100	GORK		0824.7	0839.2		600			
	35000	BERN	47	0825.0U	0836.9	30.0U	490.0			
	100	HIRA		0825.0	0910.8		580 U			SR
	100	HIRA	46 C	0825.0	0839.3	80.0U	630	180 U		ML
	500	HIRA	48 C	0826.0	0832.0	80.0D	800	100		SUNSET
	5730	IRKU		0826.2	0832.5		500			L
	5730	IRKU		0826.2	0842.9		394			L
	5730	IRKU		0826.2	0839.5		1237			L
	5730	IRKU	45 C	0826.2	0827.8	34.0	152			L
	5730	IRKU		0826.2	0836.5D		1200			L
	33	UPIC	49 GB	0826.8	0857.5	31.6				
	29	UPIC	49 GB	0826.8	0857.6	32.2				
	536	ONDR	49 GB	0827.0	0831.2	62.0	364	119		
	536	ONDR		0827.0	0838		260			
	536	ONDR		0827.0	0858.5		143			
	536	ONDR		0827.0	0849.5		156			

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DAY OF MONTH	FREQUENCY	STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY MEAN	INT	POLARIZATION OR REMARKS
04	15000	KISV	47 GB	0828.0	0840.5	39.0	1121			
	204	IZMI	20 GRF	0829.5	0835.0	15.5	1050	600		
	228	HARS	47 GB	0830.0	0833.0	10.0	540	240		
	1000	TYKW	29 PBI	0851.0		1.0D	70 U	70 U		
	2000	TYKW	29 PBI	0855.0		1.0D	100 U	100 U		
	9400	TYKW	29 PBI	0857.0		3.0D	100	100 D		
	3750	TYKW	29 PBI	0857.0		3.0D	100	100 D		
	33	UPIC	41 F	0858.4		82.3				
	29	UPIC	41 F	0859.0		81.8				
	5730	IRKU	29 PBI	0903.0		29.0	110			L
	808	ONDR		0910.0	0925.2		101			
	808	ONDR		0910.0	0914.8		91			
	430	KRAK		0917.0	0955.7		500			
	234	POTS	8 S	0935.2	0935.3	.1	220	8		
	430	KRAK	41 F	0959.0		181.0D	40			
	930	BORD	45 C	1007.0	1040	105.0	320	62		
	7000	SAOP	3 S	1108.3	1111.4	4.6	40.0			10R
	3100	CRIM	1 S	1110.5	1111.5	2.5	14 D			
	5000	BERN	3	1110.6	1111.5	4.0	23.0			
	8400	BERN	3	1111.0	1111.3	1.0U	19.0			
	9500	POTS	3 S	1111.0	1111.4	1.2	16			
	11800	BERN	3	1111.0	1111.3	1.0U	10.0			
	9100	GORK	1 S	1111.2	1111.5	1.0	20	10		
	2950	GORK	3 S	1111.2	1111.5	1.2	24			
	810	KRAK	8 S	1214.0	1214.0	.1	14			
	7000	SAOP	45 C	1258.0		225.4				2 PARTS
	2800	OTTA	2 S/F	1348.4	1349.1	1.5	3.8			
	1470	POTS	4 S/F	1348.5	1349.2	1.0	19			
	9500	POTS	2 S/F	1348.5	1349.3	1.5	9.5			
	7000	SAOP		1349.2E	1349.2		31.0			0
	2800	OTTA	26A FAL	1353.0	1650	177.0	-7.0	-4.0		
	1470	POTS	4 S/F	1406.0	1407.0	2.0	52			
	2695	PENT	1 S	1406.2	1407	1.5	6.2	3.2		
	9500	POTS	1 S	1406.5	1406.7	1.5	7.9			
	7000	SAOP		1406.8E	1406.8		25.0			6R
	228	HARS	45 C	1453.0	1453.2	1.0	240	60		
	113	POTS	41 F	1453.2	1453.4	2.1	550	35		III
	234	POTS	41 F	1453.2	1453.3	2.2	720	10		III
	930	BORD	8 S	1554.0	1554	.2	49	2		
	2800	OTTA	20 GRF	1735.0	1810	125.0	3.2	2.0		
	7000	SAOP	45 C	1737.0	1743.4		70.0			7R, CALIBRATION
	5000	BERN	21	1738.0	1743.3	10.0	36.0			
	9400	HUAN	S	1740.2	1745.1	13.6	4.1	3.2		0
	930	BORD	3 S	1741.0	1742.3	2.4	18	9		
	228	HARS	45 C	1742.0	1742.3	1.0	75	10		
	11800	BERN	21	1743.0U	1743.4	1.0U	26.0			
	8400	BERN	21	1743.0U	1743.4	1.0U	28.0			
	9400	HUAN	S	1743.2	1743.6	1.1	32.6	13.8		0
	2800	OTTA	20 GRF	1955.0	2005	30.0	3.0	1.5		
	2930	VORO	42 SER	2125.0	2130	20.0	117			
	2000	TYKW	21 GRF	2200.0	0120	600.0	11	5		
	1000	TYKW	21 GRF	2200.0	0110	600.0	9	4		
	3750	TYKW	21 GRF	2200.0	0125	600.0	18	8		
	9400	TYKW	5 S	2203.5	2203.8	1.5	4	1.5		
	2695	PENT	21 GRF	2213.0	0027	220.0D	20.4			
	1000	TYKW	45 C	2258.0	2300.6	9.0	205	15		
	9400	TYKW	21 GRF	2258.0	0110	250.0	10	6		
	2000	TYKW	45 C	2258.5	2301.0	6.5	180	50		
	9400	TYKW	45 C	2258.5	2301.0U	5.5	400 D	90 D		
	3750	TYKW	45 C	2258.5	2301.0	6.5	250	55		
	17000	NOBE	46 C	2258.7	2300.9	2.8	266			0
	17000	NOBE	29 PBI	2258.7	2301.5	27.0	21			0
	2695	PENT	4 S/F	2259.0	2301	11.0	192.0	34.2		
	9400	TYKW	29 PBI	2304.0		15.0	18	9		
	2000	TYKW	29 PBI	2305.0		13.0	5	1.5		
	3750	TYKW	29 PBI	2305.0		13.0	6	2.5		
	9400	TYKW	45 C	2321.5	2323.1	9.0	14	2		
	3750	TYKW	5 S	2323.0	2323.2	1.0	4	1		
	2695	PENT	8 S	2323.0	2323.2	.5	3.0	1.5		
05	100	GORK	44 NS	0300.0E		600.0E		5		
	200	GORK	44 NS	0301.0E		599.0D		5		
	204	IZMI	44 NS	0600.0E		360.0D	58			
	127	TORN	43 NS	0600.0		600.0		120		V0
	430	KRAK	44 NS	0700.0E		360.0D	230	6		
	260	ONDR	44 NS	0710.0E		421.0D	84	17		
	536	ONDR	44 NS	0710.0E		421.0D	31	2		
	234	POTS	43 NS	1016.0	1116	289.0D	150			
	113	POTS	43 NS	1027.0	1125.5	279.0D	600			
	200	HIRA	44 NS	1919.0E	0445	870.0D	25	15		MR
	100	HIRA	44 NS	1919.0E	0521	870.0D	90	30		SR
	3750	TYKW	45 C	0020.0	0032.5	40.0	28	6		
	2000	TYKW	45 C	0020.0	0032.4	40.0	33	3		
	9400	TYKW	45 C	0020.0	0032.4	40.0	32	10		
	2695	PENT	3 S	0031.0	0032.5	3.0	11.6	4.6		

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DAY OF MONTH	FREQUENCY	STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY MEAN	INT	POLARIZATION OR REMARKS
05	17000	NOBE	20 GRF	0021.5	0032.5	45.0	18			
	5730	IRKU	21 GRF	0022.5	0026.3	16.0	35	17		L
	5730	IRKU		0022.5	0032.4		34			L
	500	HIRA	27 RF	0025.0	0122	96.0	30	15		0
	1000	TYKW	45 C	0031.0	0032.3	3.0	10	1.5		
	1000	TYKW	45 C	0114.0	0115.8	6.0	8	1.5		
	1000	TYKW	8 S	0203.6	0203.8	.3	26	4		
	1000	TYKW	8 S	0256.2	0256.2	.1	24	8 U		
	3750	TYKW	5 S	0258.0	0259.8	2.0D	6	3 D		
	2000	TYKW	5 S	0259.0	0300	4.0	1.5	.5		
	9400	TYKW	5 S	0259.0	0259.8	3.0	3	1		
	1000	TYKW	45 C	0322.0	0323.6	2.0	52	7		
	9400	TYKW	21 GRF	0325.0	0350	75.0	4	2		
	650	GORK	1 S	0340.7	0342.6	2.5	6	1.5		
	2000	TYKW	5 S	0403.9	0404.2	1.5	6	2		
	3750	TYKW	21 GRF	0410.0	0426	70.0	2	1		
	2000	TYKW	5 S	0411.5	0412	1.0	1.5	.5		
	9400	TYKW	5 S	0411.5	0411.8	1.0	3	1		
	3750	TYKW	5 S	0411.6	0412.0	1.0	1.5	.5		
	650	GORK	1 S	0416.3	0417.0	2.5	4			
	3750	TYKW	28 PRE	0443.0	0453	10.0	2	1		
	650	GORK	1 S	0445.5	0446.3	2.2	4			
	9400	TYKW	28 PRE	0447.0	0453	6.0	3	1.5		
	9400	TYKW	30 PBI	0450.0		60.0	6	2		
	3750	TYKW	5 S	0453.0	0454.1	2.0	17	5		
	9400	TYKW	5 S	0453.0	0454.0	3.0	20	6		
	5000	BERN	21	0453.0	0454.0	10.0	14.0			
	8400	BERN	21	0453.0U	0454.0	12.0	32.0			
	9100	GORK	21 GRF	0453.2	0455.4	25.0	9.5			
	1000	TYKW	45 C	0453.9	0454.0	.7	15	3		
	950	GORK	1 S	0454.0	0454.3	.3	3	2		
	9100	GORK	1 S	0454.1	0454.4	.9	15	7		
	2950	GORK	1 S	0454.2	0454.4	2.0	8.1			
	3750	TYKW	30 PBI	0455.0		20.0	5	3		
	3750	TYKW	5 S	0500.3	0500.6	1.0	3	1		
	9400	TYKW	45 C	0500.3	0500.7	1.5	5	1.5		
	2000	TYKW	5 S	0500.3	0500.7	.7	3	1		
	2950	GORK	1 S	0500.6	0500.9	.6	2.0	1		
	2000	TYKW	5 S	0516.0	0516.1	1.0	6	1.5		
	1000	TYKW	45 C	0525.5	0525.6	.8	24	4		
	2000	TYKW	5 S	0525.6	0526.0	.8	3	1		
	9100	GORK	2 S/F	0604.6	0605.9	2.4	22	10		
	5000	BERN	1	0605.0	0605.8	2.0	5.0			
	8400	BERN	3	0605.0	0605.8	2.0	16.0			
	11800	BERN	3	0605.0	0605.7	2.0	19.0			
	3750	TYKW	5 S	0605.0	0605.6	2.0	3	1		
	1000	TYKW	5 S	0605.4	0605.5	.6	3	1		
	2000	TYKW	5 S	0605.4	0605.7U	.4D	5	2.5D		
	234	POTS	8 S	0622.1	0622.2	.4	2500	800		
	2000	TYKW	8 S	0629.4	0629.5	.2	8	3		
	9100	GORK	21 GRF	0644.4	0647.8	13.0	6	2		
	3100	CRIM	1 S	0645.0	0646.0	2.0	9	3		
	9400	TYKW	5 S	0645.4	0645.7	4.0	83	15		
	9100	GORK	4 S/F	0645.5	0645.8	2.2	90	40		
	17000	NOBE	1 S	0645.5	0645.8	2.8	28			0
	2950	GORK	1 S	0645.5	0646.8	2.1	6.8	3.8		
	5000	BERN	3	0645.5	0645.8	12.0	42.8			
	8400	BERN	3	0645.5	0645.7	3.0	67.8			
	11800	BERN	3	0645.5	0645.7	3.0	46.0			
	9500	POTS	3 S	0645.5	0645.7	3.5	68			
	3750	TYKW	5 S	0655.0	0655.9	4.0	22	6		
	650	GORK	23 GRF	0706.0	1157.3	394.0E	30			
	234	POTS	8 S	0741.4	0741.4	.1	145	50		III
	2000	TYKW	21 GRF	0820.0	0900	46.0	2	1		
	3750	TYKW	21 GRF	0820.0	0857	46.0D	5	2 D		
	9400	TYKW	20 GRF	0820.0	0900	44.0D	15	5 D		
	3100	CRIM	25 R	0845.0	1007.0		19			
	9100	GORK	21 GRF	0849.9	1046.5	220.0E	16			
	1470	POTS	1 S	0850.3	0850.9	.7	5.5			
	2000	TYKW	45 C	0850.3	0850.5	1.5	8	2.5		
	9500	POTS	1 S	0851.4	0851.5	1.1	6.3			
	2950	GORK	21 GRF	0854.0	1008.0	87.0E	10.4			
	9500	POTS	1 S	0903.5	0904.0	2.0	7.9			
	1470	POTS	8 S	0904.0	0904.0	1.0	38			
	3100	CRIM	1 S	0904.0	0904.5	1.0	9	3		
	2000	TYKW	5 S	0904.0	0904.2	1.0	17	4		
	3750	TYKW	5 S	0904.0	0904.2	1.0	6	2		
	2950	GORK	1 S	0904.1	0904.2	1.1	6.3	3		
	950	GORK	4 S/F	0904.2	0904.6	1.7	17			
	2950	GORK	1 S	0926.0	0927.0	3.2	3.1	1.5		
	650	GORK	3 S	1022.0	1023.2	3.3	11	5		
	950	GORK	1 S	1022.5	1024.0	1.7	4.5			
	2950	GORK	1 S	1023.0	1024.7	2.1	5.2			
	5000	BERN	1	1023.0	1024.3	4.0	5.0			
	11800	BERN	1	1023.0	1024.2	2.0	14.0			

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DAY OF MONTH	FREQUENCY	STATION	TYPE	STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1}		INT	POLARIZATION OR REMARKS
				UT	UT	MINUTES	PEAK	MEAN		
05	8400	BERN	1	1023.0	1024.2	2.0	12.0			
	9500	POTS	3 S	1023.5	1024.4	1.5	12			
	9100	GORK	1 S	1023.5	1024.5	1.8	13	5		
	808	ONDR	8 S	1024.7	1024.7	.2	34			
	950	GORK	23 GRF	1031.3	1113.9	118.7	22			
	100	GORK	27 RF	1036.0	1123.5	144.0E	1200	290		
	200	GORK	27 RF	1039.0	1117.7	151.0E	650			
	204	IZMI	25 R	1040.0	1111.0	80.0	360	250		
	2800	OTTA	21 GRF	1040.0	1205	340.0D	21.4			
	430	KRAK	23 RF	1040.7	1100.7	50.0	300	20		
	808	ONDR	45 C	1055.0	1110.8	39.0	52	23		
	1470	POTS	23 GRF	1056.0	1112.7	147.0	35			
	2800	OTTA	20 GRF	1102.0	1111	35.0	21.4	8.0		
	3000	POTS	20 GRF	1102.0	1111.5	151.0	16			
	810	KRAK	46 C	1103.0	1111.0	27.5	50	15		
	29	UPIC	20 GRF	1104.3	1218.3U	149.9				
	33	UPIC	20 GRF	1104.5	1200	150.4				
	950	GORK	4 S/F	1107.8	1110.2	4.5	49			
	3100	CRIM	1 S	1108.0	1111.0	19.0	16	5		
	650	GORK		1108.4	1120.2		30			
	650	GORK	46 C	1108.4	1111.9	15.0	40			
	2950	GORK	1 S	1108.5	1110.7	5.0	7.4	3.7		
	808	ONDR	45 C	1330.0	1343.7	20.0	42	23		
	7000	SAOP	40 F	1653.0		111.0				
	2800	OTTA	20 GRF	1750.0	1815	45.0	3.6	1.8		
	9400	TYKW	21 GRF	2215.0	2240	80.0	6	3		
	3750	TYKW	20 GRF	2220.0	2235	30.0	2	1		
	9400	TYKW	5 S	2221.0	2221.4	1.0	6	1.5		
	9400	TYKW	45 C	2230.0	2232.6	5.0	7	2.5		
	2695	PENT	21 GRF	2250.0	2305	40.0	3.0	1.7		
	3750	TYKW	28 PRE	2253.0	2300	7.0	1	.5		
	3750	TYKW	45 C	2300.0	2303.6	5.0	13	6		
	2800	TYKW	20 GRF	2300.0	2303	30.0	2	1		
	2695	PENT	1 S	2301.0	2303	4.0	3.8	2.8		
	3750	TYKW	29 PBI	2305.0		25.0	5	2		
	9400	TYKW	5 S	2320.0	2321.5	4.0	3	1.5		
	9400	TYKW	5 S	2341.0	2344	7.0	3	1.5		
	3750	TYKW	5 S	2341.0	2344	15.0	3	1		
06	200	GORK	44 NS	0258.0E		602.0D		5		
	100	GORK	44 NS	0300.0E		600.0E		10		
	260	ONDR	44 NS	0555.0E		499.0D	212 D	12		
	127	TORN	44 NS	0600.0E	0857.7	600.0D	4300	22		V2
	113	POTS	44 NS	0612.0E	0657	509.0D	23			
	33	UPIC	43 NS	0646.3		488.6				
	29	UPIC	43 NS	0646.7	0857.5U	488.2				
	536	ONDR	43 NS	0900.0		314.0D	136	5		
	100	HIRA	44 NS	1917.0E	2033	870.0D	40	10		8
	200	HIRA	44 NS	1917.0E	2035	870.0D	25	15		
	2695	PENT	20 GRF	0003.0	0020	90.0	5.2	2.0		
	3750	TYKW	21 GRF	0003.0	0030	75.0	3	1.5		
	9400	TYKW	21 GRF	0003.0	0030	75.0	6	3		
	3750	TYKW	5 S	0015.0	0019.3	10.0	7	1.5		
	9400	TYKW	5 S	0018.5	0019.4	3.5	5	2		
	9400	TYKW	5 S	0140.0	0141.4	3.0	11	4		
	3750	TYKW	5 S	0140.0	0141.5	3.0	16	6		
	2695	PENT	3 S	0140.0	0141.5	4.5	15.8	4.0		
	2000	TYKW	5 S	0140.5	0141.5	3.0	10	3		
	5730	IRKU	1 S	0140.7	0141.6	2.0	18	7		L
	1000	TYKW	5 S	0141.0	0141.6	1.0	5	1.5		
	3750	TYKW	29 PBI	0143.0		55.0	3	1.5		
	3750	TYKW	5 S	0244.0	0246.1	6.0	7	1.5		
	9400	TYKW	5 S	0244.0	0246.1	10.0	5	2		
	2000	TYKW	5 S	0245.0	0246.1	3.0	3.5	1.2		
	9400	TYKW	45 C	0341.0	0343.5	7.0	20	6		
	9100	GORK	45 C	0341.4	0343.5	9.3	19			
	9100	GORK		0341.4	0344.4		17			
	2950	GORK	1 S	0342.5	0343.0	1.4	8.8	4.0		
	17000	NOBE	1 S	0342.6	0343.6	1.7	15			8
	950	GORK	1 S	0343.1	0343.4	.6	5			
	9400	TYKW	29 PBI	0348.0		50.0	4	1.5		
	9100	GORK	1 S	0413.6	0414.1	1.6	7	3		
	9100	GORK	22 GRF	0456.6	0457.2	7.3	10			
	650	GORK	20 GRF	0507.2	0527.3	38.5	12	3		
	113	POTS	4 S/F	0620.6	0621.0	.9	100	30		
	204	IZMI	41 F	0645.5	0647.5	7.5	1200			
	113	POTS	42 SER	0646.6	0646.7	9.1	375	1 E		III
	650	GORK	21 GRF	0721.5	0813.4	335.0	15			
	9400	TYKW	5 S	0723.0	0723.9	2.0	19	6		
	15000	KISV	8 S	0723.3	0723.5	1.0	109			
	9500	POTS	29 PBI	0723.5	0723.9	5.0	22			
	17000	NOBE	1 S	0723.7	0723.9	2.0	47			R
	9100	GORK	21 GRF	0723.8	0724.8	11.6	5.5			
	9100	GORK	1 S	0723.9	0724.2	.5	17	7		
	10715	DWIN	1 S	0724.0	0724	1.0	15	10		

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DAY OF MONTH	FREQUENCY	STATION	TYPE	STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1}		INT	POLARIZATION OR REMARKS
				UT	UT	MINUTES	PEAK	MEAN		
06	9400	TYKW	29 PBI	0725.0		15.0	3	1.5		
	430	KRAK	1 S	0735.0	0735.3	1.0	12	6		
	204	IZMI	8 S	0755.5	0755.6	.7	1350	900		
	8400	BERN	45	0757.5	0757.5	3.0	19.0			
	113	POTS	41 F	0758.3	0800.0	3.2	800			III
	234	POTS	41 F	0758.4	0800.0	2.8	1200			
	100	GORK	45 C	0759.7	0759.8	.6	280			
	100	GORK		0759.7	0800.0		280 D			
	200	GORK	4 S/F	0759.7	0800.1	.7	60 D			
	430	KRAK	8 S	0834.7	0834.7	.7	800			
	810	KRAK	8 S	0835.0	0835.0	.2	36			
	430	KRAK	42 SER	0847.5	0859.7	104.0	300			
	100	GORK		0849.0	0849.3U		224 D			
	100	GORK	45 C	0849.0	0849.1	.8	224			
	113	POTS	42 SER	0849.0	0857.6	12.0	6000	60 D		III
	810	KRAK	8 S	0852.7	0852.7	.1	17			
	5000	BERN	45	0854.5	0900.1	12.0	11.0			
	950	GORK	1 S	0855.0	0855.8	.7	5	3		
	9100	GORK		0855.5	0900.3		18			
	9100	GORK	41 F	0855.5	0857.7	10.7	20			
	930	BORD	41 F	0855.5	0855.7	.3	20	2		
	650	GORK		0855.9	0900.2		50			
	650	GORK	41 F	0855.9	0855.9	5.6	22			
	200	GORK		0857.4	0900.4		25 D			
	200	GORK	46 C	0857.4	0857.8	3.8	25 D			
	100	GORK	41 F	0857.5	0857.7U	3.5	220 D			
	100	GORK		0857.5	0904.0		1570			
	11800	BERN	45	0857.5	0857.5	4.8	36.0			
	19600	BERN	45	0857.5	0857.5	6.0U	54.0			
	9500	POTS	42 SER	0857.5	0900.1	4.5	14			
	234	POTS	42 SER	0857.6	0857.6	3.1	1000	5		III
	15000	KISV	8 S	0857.7	0857.8	.5	20			
	204	IZMI	41 F	0858.5	0858.6	3.0	1300			
	3100	CRIM	1 S	0859.5	0900.0	2.0	10	3		
	810	KRAK	2 S/F	0859.7	0900.0	1.0	34	5		
	930	BORD	45 C	0859.8	0900.4	1.2	23	4		
	15000	KISV	1 S	0859.8	0900.2	.5	7			
	2950	GORK	1 S	0900.0	0900.3	1.9	9.8	4.9		
	2650	DWIN	1 S	0900.0	0900	1.0	25	20		
	1470	POTS	3 S	0900.0	0900.3	1.5	11			
	950	GORK	3 S	0900.1	0900.4	1.8	17			
	234	POTS	42 SER	0917.6	0918.2	2.4	300	1		III
	200	GORK	4 S/F	0951.3	0952.8	3.2	180			
	430	KRAK		0951.5	0952.5		70			
	113	POTS	4 S/F	0951.9	0952.4	1.4	2000	300		III
	234	POTS	4 S/F	0952.0	0952.2	.8	3000	20		III
	1470	POTS	4 S/F	0952.0	0952.7	3.0	6.9			
	930	BORD	46 C	0952.0	0952.6	1.5	30	4		
	3100	CRIM	1 S	0952.0	0952.5	4.0	6	2		
	810	KRAK	3 S	0952.0	0952.5	1.5	16	3		
	950	GORK	4 S/F	0952.1	0952.8	1.8	14			
	650	GORK	1 S	0952.2	0952.7	1.2	11	5		
	2950	GORK	1 S	0952.3	0952.8	4.4	5.9			
	204	IZMI	48 C	0953.0	0953.1	1.0	1600	1200		
	100	GORK		0958.0	0958.7		9600			
	100	GORK	46 C	0958.0	0958.6	1.5	8750			
	113	POTS	4 S/F	1011.7	1012.0	.6	1800	350		III
	234	POTS	8 S	1012.0	1012.0	.2	240	80		III
	204	IZMI	7 C	1013.0	1013.2	.6	400	270		
	3100	CRIM	25 R	1032.0	1154.0	124.0	4			
	430	KRAK	8 S	1103.3	1104.0	1.5	1100	400		
	200	GORK		1113.6	1125.0		20 D			
	200	GORK	41 F	1113.6	1114.3	15.0	20 D			
	35000	BERN	8	1113.6	1113.7	1.0	98.0			
	11000	BERN	8	1113.6	1113.7	1.0	22.0			
	19600	BERN	8	1113.6	1113.7	1.0	62.0			
	113	POTS	42 SER	1113.8	1142.6	30.0	7000 D	25 D		III
	234	POTS	42 SER	1113.8	1142.6	30.0	144000 D	500 D		III/V
	9100	GORK		1114.0	1126.6		12			
	9100	GORK	41 F	1114.0	1114.1	32.0	10			
	9100	GORK		1114.0	1140.8		56			
	15000	KISV	8 S	1114.3	1114.3	.3	28			
	204	IZMI	41 F	1114.5	1143.0	30.0	7000			
	430	KRAK		1124.0	1143.0		380			
	430	KRAK	42 SER	1124.0	1126.7	82.0	430			
	650	GORK		1124.8	1127.8U		48			
	930	BORD	42 SER	1124.8	1124.9	3.0	64	2		
	650	GORK	41 F	1124.8	1125.8	5.2	14			
	810	KRAK	42 SER	1125.0	1126.5	3.0	230			
	7000	SAOP	3 S	1126.0	1126.5		13.0			22R
	100	GORK	46 C	1128.0	1128.6	1.5	1100			
	100	GORK		1128.0	1129.0		1670			
	200	GORK		1132.8	1143.0		170 D			
	200	GORK	41 F	1132.8	1133.1	11.4	175 D			
F	7000	SAOP	3 S	1139.2	1142.6	27.0	38.0			12L

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				UT	UT	MINUTES	PEAK	MEAN		
06	100	GORK		1142.4	1143 U		230 D			
	100	GORK	46 C	1142.4	1142.6	1.4	200			
	3100	CRIM	1 S	1142.5	1143.0	5.0	13	4		
	11800	BERN	4	1142.5	1142.5	1.4	126.0			
	19600	BERN	4	1142.5	1142.5	.7	371.0			
	2800	OTTA	3 S	1142.5	1142.6	5.0	28.8	5.2		
	1470	POTS	29 PBI	1142.5	1142.7	40.0	18			
	9500	POTS	3 S	1142.5	1142.5	2.5	53			
	35000	BERN	4	1142.5	1142.5	.7	570.0			
	650	GORK	3 S	1142.6	1143.5	4.7	17			
	9400	HUAN	8 S	1142.6	1142.8	.8	55.6	29.4		0
	15000	KISV	8 S	1142.7	1142.7	.5	148			
	950	GORK	3 S	1142.7	1142.7	3.5	20			
	2950	GORK	3 S	1142.7	1142.8	2.3	17			
	810	KRAK	3 S	1143.0	1143.0	4.5	26	7		
	950	GORK	29 PBI	1146.2	1146.2	12.6	7	4		
	2650	DWIN	1 S	1147.0	1148	5.0	25	10		
	10715	DWIN	1 S	1147.0	1148	2.0	40	20		
	930	BORD	41 F	1201.0	1201.6	.8	11	2		
	113	POTS	4 S/F	1217.0	1217.3	.7	1000	35		III
	930	BORD	40 F	1241.0	1316	70.0	15	9		
	234	POTS	41 F	1323.2	1323.4	1.2	2900	15		III
	1470	POTS	40 F	1323.8	1326.1	3.7	2.6			
	7000	SAOP	1 S	1324.0	1324.6		10.0			16R
	9500	POTS	29 PBI	1325.0	1325.7	20.0	4.5			
	2650	DWIN	8 S	1325.0			90			
	3000	POTS	8 S	1325.2	1325.6	.8	33			
	2800	OTTA	8 S	1325.5	1325.8	.5	64.0			
	5000	BERN	21	1346.0	1418.8	116.0	40.0			
	2800	OTTA	21 GRF	1350.0	1421	100.0	13.4			
	9500	POTS	21 GRF	1355.0	1440	55.0D	18			
	1470	POTS	20 GRF	1355.0	1358	55.0D	2.7			
	3000	POTS	24 R	1355.0	1357.0	55.0D	25			
	2800	OTTA	3 S	1356.0	1357.3	7.0	19.6	6.6		
	9400	HUAN	S	1356.0	1421.9	77.4	21.6	11.7		0
	930	BORD	40 F	1410.0	1419	28.0	14	6		
	930	BORD		1410.0	1421.7		36			
	9500	POTS	3 S	1417.5	1418.9	7.5	39			
	3000	POTS	4 S/F	1417.5	1418.8	5.5	31			
	2800	OTTA	3 S	1418.0	1418.8	2.5	13.6	6.8		
	8400	BERN	3	1418.0U	1418.8	5.0U	35.0			
	11800	BERN	3	1418.0U	1418.8U	5.0U	40.0			
	7000	SAOP	4 S/F	1418.0	1418.7	36.0	35.0			14R
	9400	HUAN	S	1418.1	1418.8	2.8	29.4	18.3		0
	1470	POTS	40 F	1418.2	1423.0	10.0	15			
	2800	OTTA	8 S	1422.1	1422.4	.6	5.0	2.5		
	930	BORD	41 F	1512.2	1512.3	.3	25	2		
	930	BORD	8 S	1542.8	1542.8	.1	19	1		
	930	BORD	41 F	1545.7	1546	.3	40	2		
	930	BORD	41 F	1550.7	1552.4	3.3	94	2		
	2800	OTTA	8 S	1550.9	1550.9	.1	5.0			
	11800	BERN	3	1551.0U	1552.3	4.0U	22.0			
	8400	BERN	3	1551.0U	1552.3	4.0U	16.0			
	5000	BERN	3	1551.0	1552.3	4.0	14.0			
	7000	SAOP	4 S/F	1551.5	1552.4	1.6	23.0			7R
	2800	OTTA	4 S/F	1551.9	1552.3	1.0	18.0	6.0		
	930	BORD	40 F	1600.0	1607.1	26.0	17	7		
	7000	SAOP	40 F	1622.0		27.0				
	930	BORD		1700.0	1724.3		86			
	930	BORD	40 F	1700.0	1727.4	38.0	21	7		
	930	BORD		1700.0	1722.3		54			
	2800	OTTA	27A RF	1715.0		215.0	3.0	2.6		
	2800	OTTA	24 R	1715.0	1723	8.0	3.0	1.5		
	7000	SAOP	45 C	1717.2	1718.2	13.8	27.0			0
	19600	BERN	45	1717.7	1718.2	.5U	31.0			OPR
	5000	BERN	1	1717.7	1718.0	2.0	6.0			
	8400	BERN	45	1717.7	1718.0	1.5	18.0			
	11800	BERN	45	1717.8	1718.0	1.5	25.0			OPR
	2800	OTTA	3 S	1721.7	1722	1.0	22.2			
	2800	OTTA	24P R	1723.0		157.0	3.0			
	2800	OTTA	26 FAL	2000.0	2050	50.0	-3.0	-1.5		
	500	HIRA	48 C	2129.7		34.0	150 D			
	2800	OTTA	40 F	2130.0	2131	3.0	300.0			
	200	HIRA	41 F	2130.0	2131.0	6.0	1000	180		
	1000	TYKW	47 GB	2130.0	2130.8	2.5	860	120		
	2000	TYKW	45 C	2130.0	2131.1	2.5	232	50		
	9400	TYKW	45 C	2130.0	2130.9	8.0	235	40		
	3750	TYKW	45 C	2130.0	2131.1	6.0	69	12		
	17000	NOBE	46 C	2130.1	2130.9	4.0	365			R
	1000	TYKW	30 PBI	2132.5		6.0	6	3		
	1000	TYKW	45 C	2132.6	2133.0	.7	310	30		
	200	HIRA	45 C	2334.2	2334.6	1.0	8800	2900		
	100	HIRA	45 C	2334.4	2334.9	1.7	6100	1100		WL
	500	HIRA	8 S	2334.4	2334.7	1.0	126	80		0
	2695	PENT	3 S	2334.5	2334.7	1.0	12.6	3.0		

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DAY OF MONTH	FREQUENCY	STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY MEAN	INT	POLARIZATION OR REMARKS
06	3750	TYKW	5 S	2334.5	2334.8	1.5	3	1		
	9400	TYKW	5 S	2334.5	2334.8	1.5	16	4		
	1000	TYKW	45 C	2334.6	2334.8	2.0	32	6		
	2000	TYKW	5 S	2334.6	2334.8	1.5	24	5		
	17000	NOBE	8 S	2334.6	2334.8	.6	51			R
07	200	GORK	44 NS	0255.0E		420.0D		5		
	100	GORK	43 NS	0259.0		421.0E		5		
	113	POTS	44 NS	0509.0E	1232.5	569.0D	25			
	260	ONDR	44 NS	0538.0E		570.0D	222 D	5		
	33	UPIC	43 NS	0554.5	0724.5	425.0				
	29	UPIC	43 NS	0554.6	0724.5	424.8				
	127	TORN	44 NS	0600.0E	0745.5	560.0D	2100	9		V2
	200	HIRA	44 NS	1917.0E	0420	870.0D	10	5		B
	9400	TYKW	5 S	0056.0	0058.5	6.0	33	3		
	3750	TYKW	5 S	0057.0	0058.6	5.0	6	2		
	17000	NOBE	1 S	0057.5	0058.6	3.0	23			R
	2000	TYKW	5 S	0058.0	0058.7	2.0	1	.3		
	1000	TYKW	5 S	0058.2	0058.7	1.0	6	2		
	2932	VORO	3 S	0115.0	0118	10.0	64			
	2000	TYKW		0116.0	0117.1		17			
	2000	TYKW	45 C	0116.0	0118.2	13.0	40	5		
	3750	TYKW	45 C	0116.5	0118.2	10.0	57	7		
	9400	TYKW	45 C	0116.5	0117.5	10.0	385	60		
	500	HIRA	48 C	0116.6	0128.5	35.0	900	200		
	5730	IRKU		0116.7D	0120.6		15			
	5730	IRKU		0116.7D	0122.1		28			
	5730	IRKU	45 C	0116.7	0118 D	8.0	79 D			L
	17000	NOBE	46 C	0116.7	0117.4	3.5	549			R
	1000	TYKW	45 C	0116.7	0118.2	13.0	85	8		
	100	HIRA	48 C	0116.8	0116.8	12.5	20000	860		
	230	HIRA	46 C	0116.9	0117.1	6.2	2900	230		ML
	35000	NAGO	5 S	0117.0	0118	3.0	70			
	2695	PENT	3 S	0117.0	0118.4	3.0	44.0	19.0		
	35000	NAGO	29 PBI	0120.0	0122	6.0	13			
	17000	NOBE	7 C	0120.2	0122.0	2.7	56			R
	17000	NOBE	29 PBI	0120.2	0123.0	8.0	11			U
	200	HIRA		0121.9	0121.9		218			WL
	100	HIRA		0123.1	0123.1		5000			
	9400	TYKW	5 S	0240.0	0240.4	1.0	7	3		
	9400	TYKW	5 S	0244.6	0244.8	.8	10	3		
	9400	TYKW	5 S	0254.5U	0255.1	1.0U	14 U	3 U		RAIN
	100	GORK		0255.0	0257.8		1050			
	200	GORK	42 SER	0255.0E	0257.9	517.0D	195 D			
	100	GORK		0255.0	0257.5		1050			
	200	GORK		0255.0E	0314.3		7060 D			
	200	GORK		0255.0E	0346.4		630 D			
	100	GORK	46 C	0255.6	0255.6	3.7	100 D			
	100	HIRA	48 C	0311.7	0312.3U	17.0	100000 D	3200 D		
	203	HIRA	48 C	0311.7	0312.3	8.0	10000	830		ML
	200	HIRA		0311.7	0314.0		5000			ML
	100	HIRA		0311.7	0320.6		2100			ML
	35000	NAGO	5 S	0312.0	0312	3.0	420			
	500	HIRA	46 C	0312.0	0312.9	24.0	3000	200		
	5730	IRKU		0312.0	0315.7		27			L
	5730	IRKU		0312.0	0313.9		40			L
	5730	IRKU	45 C	0312.0	0313 U	8.0	45 D			L
	100	GORK	46 C	0312.0	0312.3	2.0	1050			
	17000	NOBE	46 C	0312.0	0312.5	5.5	953			R
	100	GORK		0312.0	0312.3U		100000			
	9400	TYKW	47 GB	0312.0	0312.7	4.0	500 U	100 U		RAIN
	2000	TYKW	45 C	0312.0	0312.6	5.0	220	35		
	3750	TYKW	45 C	0312.0	0312.8	5.0	133	25		
	1000	TYKW	45 C	0312.0	0312.9	5.0	370	60		
	650	GORK		0312.3	0326.3		18			
	650	GORK	46 C	0312.3	0315.6	20.7	60			
	950	GORK	4 S/F	0312.4	0313.5	5.3	132			
	35000	NAGO	29 PBI	0315.0	0316	6.0	11			
	9400	TYKW	30 PBI	0316.0		45.0	8 U	2 U		
	1000	TYKW	29 PBI	0317.0		27.0	12	2.5		
	3750	TYKW	30 PBI	0317.0		80.0	5	1		
	2000	TYKW	29 PBI	0317.0		75.0	7	.7		
	3750	TYKW	20 GRF	0330.0	0346	60.0	2	1		
	9400	TYKW	5 S	0345.6	0345.8	.5	22	7		
	17000	NOBE	1 S	0345.6	0345.8	.4	11			U
	1000	TYKW	5 S	0345.8	0346.8	1.0	3	.5		
	9100	GORK	1 S	0346.0	0346.3	.7	24	10		
	100	GORK	8 S	0346.0	0346.3	.5	28000			
	1000	TYKW	8 S	0444.7	0444.7	.2	2	1		
	1000	TYKW	8 S	0446.9	0446.9	.2	3	1		
	1000	TYKW	42 SER	0450.3	0450.8	1.0	36	5		
	3750	TYKW	5 S	0450.6	0450.8	.7	6	1.5		
	2000	TYKW	5 S	0450.6	0450.8	1.0	7	1.5		
	2950	GORK	1 S	0451.1	0451.2	.5	5.3	2.5		
	650	GORK	1 S	0452.5	0458	7.5	3.5	1.5		

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07	1000	TYKW	8 S	0452.5	0452.6	.2	14	6		
	1000	TYKW	21 GRF	0453.0	0525	90.0	1.5	.7		
	2000	TYKW	21 GRF	0453.0	0525	100.0	3.5	1.5		
	3750	TYKW	21 GRF	0455.0	0520	120.0	6	2		
	9400	TYKW	21 GRF	0455.0	0525	90.0	7	3		
	1000	TYKW	47 GB	0455.6	0455.8	.4	560	100		
	3750	TYKW	5 S	0501.0	0501.5	7.0	2	.7		
	1000	TYKW	45 C	0509.0	0510.1	4.0	3	.5		
	2000	TYKW	45 C	0513.0	0519.1	11.0	6	1.5		
	1000	TYKW	45 C	0514.0	0520.5	8.0	145	6		
	2950	GORK	20 GRF	0514.0	0521.0	25.2	6.4	3.2		
	9100	GORK	20 GRF	0515.8	0522.4	24.0	6	3		
	650	GORK	41 F	0518.7	0519.5	4.5	14			
	650	CORK		0518.7	0520.9		50			
	950	GORK	41 F	0519.1	0519.6	3.9	13			
	950	GORK		0519.1	0521.1		74			
	5000	BERN	1	0554.0	0554.2	1.0U	4.0			
	8400	BERN	3	0554.0	0554.3U	1.0U	11.0			
	3750	TYKW	5 S	0554.0	0554.3	1.0	2	1		
	9400	TYKW	5 S	0554.2	0554.4	1.5	16	4		
	9100	GORK	1 S	0554.2	0554.7	1.4	17	7		
	234	POTS	4 S/F	0554.3	0554.4	.4	2800	500		
	100	GORK		0554.5	0551.1		175 D			
	200	GORK	8 S	0554.5	0554.8	1.0	200 D			
	100	GORK	46 C	0554.5	0554.9	.9	175 D			
	204	ISHI	42 SER	0602.0	0615.2	240.0	1350			
	113	POTS	4 S/F	0613.8	0615.6	2.7	2000	500		III
	100	GORK	46 C	0614.6	0614.8	2.3	180			
	100	GORK	46 C	0614.6	0616.1		2000 D			
	200	GORK		0614.6	0616.0		5400			
	200	GORK	46 C	0614.6	0614.8	2.0	190			
	808	ONDR	3 S	0614.7	0615.8	2.0	15	6		
	234	POTS	4 S/F	0614.8	0616.0	2.3	4800	500		III/V
	536	ONDR	2 S/F	0615.0	0615.8	1.5	8	2		
	1000	TYKW	5 S	0615.0	0615.9	3.0	15	2.5		
	3750	TYKW	5 S	0615.0	0615.6	1.5	4	1		
	2000	TYKW	45 C	0615.0	0615.6	2.0	9	2		
	9400	TYKW	5 S	0615.0	0615.3	2.0	5	1.5		
	9100	GORK	1 S	0615.1	0615.8	1.6	7	3		
	650	GORK	1 S	0615.4	0616.3	3.9	6	3		
	2950	GORK	1 S	0615.7	0615.9	1.1	5.5	2.5		
	950	GORK	3 S	0615.8	0616.3	.8	15			
	950	GORK	29 PBI	0616.6	0616.7	0.6	3			
	2950	GORK	1 S	0620.9	0621.0	1.1	2.8	1.4		
	200	GORK		0657.8	0844.8		190 D			
	200	GORK		0657.8	0725.7		700			
	200	GORK	42 SER	0657.8	0718.5	144.0	190 D			
	200	GORK		0657.8	0745.5		190 D			
	234	POTS	41 F	0708.2	0708.6	2.3	4800	30		III
	430	KRAK		0708.3	0743.0		80			
	430	KRAK		0708.3	1015.7		140			
	430	KRAK	42 SER	0708.3	0709.7	352.0D	800			
	9400	TYKW	45 C	0709.5	0710.0	1.5	15	4		
	9500	POTS	4 S/F	0709.9	0710.0	1.7	12			
	9100	GORK	2 S/F	0710.1	0710.4	1.6	12	4		
	650	GORK	2 S/F	0710.2	0710.9	.8	14			
	650	GORK	21 GRF	0721.1	0724.5	15.0	1.5			
	430	KRAK	46 C	0723.5	0725.5	8.0	1300 D	250		
	430	KRAK		0723.5	0727.5U		1300 D			
	2000	TYKW	5 S	0724.0	0724.9	3.0	200	10		
	1000	TYKW	45 C	0724.0	0724.8	4.0	29	3.5		
	1000	TYKW		0724.0	0726.0		26			
	3750	TYKW	45 C	0724.0	0724.8	3.0	51	3		
	9400	TYKW	45 C	0724.0	0724.7	3.0	120 U	15 U		RAIN
	808	ONDR	2 S/F	0724.0	0724.8	4.0	19	4		
	536	ONDR	45 C	0724.0	0724.7	3.5	117	10		
	2650	DWIN	3 S	0724.0	0724	1.0	160	100		
	10715	DWIN	3 S	0724.0	0724	1.0	55	30		
	35000	BERN	8	0724.0U	0724.6	1.0	150.0			
	11800	BERN	8	0724.2	0724.6	1.0	135.0			
	5000	BERN	8	0724.2	0724.6	1.0	40.0			
	8400	BERN	8	0724.2	0724.6	1.0	70.0			
	9500	POTS	3 S	0724.2	0724.7	1.8	99			
	100	HIRA	46 C	0724.3	0724.7	2.0	80000	8000		WL
	100	HIRA		0724.3	0725.5		5000			0
	500	HIRA	46 C	0724.3	0725.1	2.6	300	100		
	5730	IRKU		0724.3	0726.4		17			0
	100	GORK	8 S	0724.3	0724.6	1.0	226000			
	650	GORK		0724.3	0725.0		49			
	5730	IRKU	45 C	0724.3	0724.7	6.0	54	10		0
	200	HIRA	46 C	0724.3	0724.7	3.0	37000	2100		ML
	650	GORK	46 C	0724.3	0724.5	2.0	30			
	127	TORN	47 GB	0724.3	0724.9U	3.0	2100 D	440		SATURATED
	17000	NOBE	8 S	0724.4	0724.6	1.0	221			R
	950	GORK	4 S/F	0724.4	0724.9	4.7	17			

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07	9100	GORK	3	S	0724.4	0724.8	2.2	120	45		
	234	POTS	42		0724.4	0724.7	37.0	82000 D	300 D		III
	113	POTS	42	SER	0724.4	0724.7	37.0	11000 D	50 D		III
	3000	POTS	8	S	0724.5	0724.9	1.0	67			
	1470	POTS	4	S/F	0724.5	0725.0	3.0	55			
	19600	BERN	8		0724.5	0724.6	1.0	200.0			
	2950	GORK	3	S	0724.5	0724.8	.9	80	30		
	3100	CRIM	3	S	0725.0	0725.5	3.0	19	6		
	810	KRAK	4	S/F	0725.0	0725.5	2.3	32	8		
	100	GORK	8	S	0745.4	0745.6	.3	2350			
	930	BORD	40	F	0807.2	0807.3	1.6	32	2		
	1000	TYKW	42	SER	0807.2	0807.8	1.2	9	1.5		
	113	POTS	42	SER	0825.1	0829.1	4.1	350	3		III
	234	POTS	42	SER	0825.3	0825.4	3.9	120	1 E		III
	100	GORK	8	S	0829.2	0829.3	.3	2350			
	113	POTS	42	SER	0842.6	0847.5	6.6	350	1 E		III
	234	POTS	42	SER	0842.6	0844.7	5.2	500	1		III
	234	POTS	8	S	0914.1	0914.2	.1	320	80		
	200	GORK	2	S/F	0940.3	0941.4	1.5	35 D			
	234	POTS	4	S/F	0941.1	0941.2	.4	625	100		III
	113	POTS	4	S/F	0941.2	0941.3	.5	800	150		III
	1470	POTS	20	GRF	0951.0	0953.9	29.0	4.1			
	430	KRAK			1100.0	1205.3		120			
	430	KRAK			1100.0	1245.5		1100			
	2800	OTTA	32	ADS	1105.0	1130	55.0	-3.6	-2.0		
	5000	BERN	45		1200.0	1243.7	180.0	25.0			
	2800	OTTA	24	R	1205.0	1253	48.0	10.2	5.1		
	2800	OTTA	27A	RF	1205.0		435.0	10.2	6.0		
	3000	POTS	20	GRF	1207.0	1233 U	58.0				
	1470	POTS	22	GRF	1207.5	1220.4	53.0	13			
	9500	POTS	20	GRF	1215.0	1233	95.0	16			
	2800	OTTA	1	S	1220.0	1222	4.0	3.6	2.0		
	7800	SAOP	45	C	1227.0	1243.0	66.0	23.0			20L
	2800	OTTA	46F	C	1229.0	1234	23.0	19.0	9.0		
	930	BORD	46	C	1229.7	1229.8	.2	30	2		
	810	KRAK	8	S	1229.7	1229.7	.2	22			
	930	BORD			1238.0	1407.5		27			
	930	BORD			1238.0	1301.3		48			
	930	BORD	40	F	1238.0	1318.8	126.0	21	7		
	2800	OTTA	24P	R	1253.0		117.0	10.2			
	2800	OTTA	20	GRF	1342.0	1345	15.0	2.2	1.1		
	2800	OTTA	26	FAL	1450.0	1920	270.0	-10.2	-4.0		
	930	BORD	40	F	1517.0	1612	78.0	14	5		
	930	BORD	40	F	1700.0	1712	37.0	17	6		
	2930	VORO	3	S	2125.0	2133	15.0	277			
	2695	PENT	20	GRF	2230.0	2320	150.0	3.8	2.2		
08	200	GORK	44	NS	0255.0E		432.0D		5		
	100	GORK	43	NS	0256.0		104.0		5		
	127	TORN	44	NS	0600.0E	1235.7	600.0D	38	1		V1
	260	ONDR	44	NS	0650.0E		444.0D	118	3		
	1000	TYKW	5	S	0842.4	0843.0	1.5	4	1.5		
	1000	TYKW	5	S	0850.5	0851.1	2.5	3	1		
	3750	TYKW	21	GRF	0340.0	0435	110.0	3	1.5		
	9100	GORK	1	S	0427.4	0428.1	1.7	10	4		
	9400	TYKW	5	S	0427.5	0428.2	2.0	8	2.5		
	3750	TYKW	5	S	0427.8	0428.2	1.5	4	1		
	100	GORK			0618.1	0629.7		200 D			
	100	GORK			0618.1	0622.1		200			
	100	GORK	41	F	0618.1	0618.1	6.0	200 D			
	234	POTS	8	S	0620.1	0620.2	.5	315	100		III
	113	POTS	4	S/F	0620.2	0620.3	.8	375	100		III
	100	GORK			0726.5	0727.7		1070			
	100	GORK	41	F	0726.5	0726.8	2.2	170			
	11800	BERN	3		0726.6	0727.5	1.0	25.0			
	8400	BERN	3		0726.6	0727.5	1.0	11.0			
	5000	BERN	1		0726.6	0727.5	6.0	4.0			
	2950	GORK	1	S	0726.7	0727.4	5.2	2.1	1		
	200	GORK	3	S	0727.0	0727.5	1.0	75			
	2800	TYKW	5	S	0727.0	0727.4	3.0	2	.5		
	9400	TYKW	5	S	0727.0	0727.3	1.0	16	7		
	3750	TYKW	5	S	0727.0	0727.4	1.0	2.5	1		
	9500	POTS	29	PDI	0727.1	0727.4	13.0	13			
	234	POTS	4	S/F	0727.2	0727.4	.6	5800	1000		III
	950	GORK	1	S	0727.2	0727.3	.8	4	2		
	650	GORK	1	S	0727.2	0727.5	2.8	6	3		
	9100	GORK	1	S	0727.2	0727.3	6.3	14	2.5		
	1000	TYKW	45	C	0727.2	0727.7	2.0	6	1.5		
	204	IIMI	8	S	0727.3	0727.4	.8	2250	1000		
	113	POTS	4		0727.3	0727.4	.7	7000 D	1800 D		III
	1470	POTS	1	S	0727.3	0727.5	.7	2.0			
	127	TORN	8	S	0727.6	0728	.9	1500	740		
	260	ONDR	8	S	0727.7	0727.7	.3	222 D			
	9400	TYKW	29	PDI	0728.0		10.0	3	1.5		
	430	KRAK	1	S	0730.0	0730.0	.5	14	7		

SOLAR RADIO EMISSION
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JUNE 1980

DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} MEAN	INT	POLARIZATION OR REMARKS
08	2800	TYKW	45	C	0802.5	0804.7	2.5	4	.5		
	1000	TYKW	45	C	0802.5	0803.4	3.0	59	4		
	2950	GORK	1	S	0830.2	0832.6	5.1	3.3	1.5		
	204	IZMI	45	C	0830.5	0831.0	2.0	300	150		
	200	GORK	4	S/F	0830.5	0831.7	3.0	50 D			
	9100	GORK	1	S	0830.5	0832.2	4.0	6	2.5		
	228	HARS	45	C	0830.5	0831.5	2.0	365	40		
	100	GORK	4	S/F	0830.6	0832.5	4.0	170			
	650	GORK	2	S/F	0831.0	0832.7	5.0	9	2		
	536	ONDR	2	S/F	0831.0	0833	3.0	14	4		
	3750	TYKW	45	C	0831.0	0832.3	2.0	3 U	1 U		
	1000	TYKW			0831.0	0832.5		8			
	9400	TYKW	5	S	0831.0	0832.3	2.0	7 U	3 U		
	2000	TYKW	45	C	0831.0	0832.5	2.0	4	2		
	1000	TYKW	45	C	0831.0	0832.1	3.0	39	3		
	430	KRAK	7	C	0831.0	0832.0	3.5	18	2		
	950	GORK	4	S/F	0831.1	0832.1	2.3	10			
	113	POTS	4	S/F	0831.5	0832.0	1.2	280	35		III
	234	POTS	4	S/F	0831.5	0831.5	1.1	265	4		III
	810	KRAK	40	F	0831.5	0833.0	1.5	6			
	5000	BERN	45		1024.0	1032.0	30.0U	134.0			
	1470	POTS	45	C	1027.0	1032.5	31.0	67			
	3000	POTS	45	C	1027.0	1047.5	30.0	97			
	2650	DWIN	45	C	1027.0	1048	30.0	90	40		
	536	ONDR	46	C	1027.0	1034.3	26.0	65	23		
	536	ONDR			1027.0	1046.2		22			
	9500	POTS	45	C	1027.5	1033.7	30.0	136			
	430	KRAK			1027.5	1032.3		33			
	430	KRAK	45	C	1027.5	1028.3	13.0	42	9		
	808	ONDR	46	C	1028.0	1031.7	23.0	55	18		
	808	ONDR			1028.0	1045.2		48			
	127	TORN	42	SER	1028.7	1037	13.5	2900			
	127	TORN			1028.7	1041.2		5200			
	204	IZMI	41	F	1028.8	1035.0	8.2	160			
	810	KRAK	45	C	1029.0	1031.3	7.7	43	20		
	810	KRAK			1029.0	1035.5		31			
	8400	BERN	45		1030.0	1033.0	30.0	100.0			
	10715	DWIN	45	C	1030.0	1034	25.0	50	20		
	11800	BERN	45		1030.0	1034.0	30.0U	76.0			
	33	UPIC	45	C	1031.1	1031.7	2.2				
	29	UPIC	45	C	1031.1	1032	1.9				
	113	POTS	46	C	1034.2	1040.2	23.0	3500	350		III
	430	KRAK	3	S	1044.5	1046.3	6.0	15	5		
	810	KRAK	45	C	1045.0	1046.3	6.0	49	17		
	234	POTS	4	S/F	1104.0	1104.0	.2	1100	100		
	234	POTS	8	S	1135.8	1135.8	.2	770	250		III
	113	POTS	8	S	1135.8	1135.9	.2	1200	400		III
	10715	DWIN	1	S	1207.0	1207	1.0	15	10		
	11800	BERN	1		1207.0U	1208.0U	10.0U	10.0U			
	5000	BERN	21		1207.0	1208.0	12.0	4.0			
	8400	BERN	1		1207.0U	1208.0U	10.0U	7.0U			
	7000	SAOP	3	S	1207.0	1207.8	2.0	31.0			13R
	9400	HUAN		S	1207.3	1207.8	1.9	27.7	10.4		R
	3000	POTS	1	S	1207.4	1207.8	1.1	3.4			
	1470	POTS	1	S	1207.5	1208.3	1.7	4.8			
	234	POTS	4	S/F	1207.7	1207.8	.3	625	30		III
	9500	POTS	3	S	1207.7	1207.9	1.5	28			
	113	POTS	4	S/F	1207.8	1208.0	.6	3500	900		III
	127	TORN	8	S	1207.8	1208.1	.7	410	210		
	29	UPIC	8	S	1234.6	1234.9	.5				
	33	UPIC	8	S	1234.9	1235	.5				
	2650	DWIN	45	C	1650.0	1659	20.0U	150	100		
	5000	BERN	4		1651.0	1658.8	16.0U	72.0			
	2800	OTTA	24	R	1652.0	1810	78.0	8.6	4.3		
	2800	OTTA	27A	RF	1652.0		238.0	8.6	6.0		
	2800	OTTA	4	S/F	1655.0	1659	11.0	120.0	38.0		
	7000	SAOP	45	C	1655.6	1658.8	32.0	49.0			10R
	9400	HUAN		S	1657.1	1659.8	3.6	24.2	21.0		0
	8400	BERN	3		1659.0U	1659.3	8.0U	33.0			
	9400	HUAN	29	PBI	1700.7	1700.7	54.9	19.0	9.9		0
	2800	OTTA	29	PBI	1706.0	1706	44.0	18.6	8.0		
	2800	OTTA	24P	R	1810.0		95.0	8.6			
	2800	OTTA	1	S	1943.5	1944	1.5	4.4	1.7		
	2800	OTTA	26	FAL	1945.0	2050	65.0	-8.6	-4.3		
09	200	GORK	44	NS	0305.0E		595.0D		5		
	100	GORK	44	NS	0305.0E		555.0E		50		
	260	ONDR	44	NS	0545.0E		505.0D	67			
	113	POTS	44	NS	0556.0E	0656	544.0D	120			
	127	TORN	44	NS	0600.0E	1132.1	600.0D	11000	92		V1
	100	HIRA	44	NS	1918.0E	0218	810.0D	90	20		MR
	200	HIRA	44	NS	1918.0E	0210	760.0D	20	5		MR
	1000	TYKW	8	S	0008.2	0008.2	.1	5	1.5U		
	1000	TYKW	8	S	0009.9	0010.0	.2	8	2 U		
	100	HIRA	7	C	0010.7	0011.3	3.0	44000	2800		ML

SOLAR RADIO EMISSION
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DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} MEAN	INT	POLARIZATION OR REMARKS
09	200	HIRA	46	C	0011.0	0012.0	2.2	440	85		ML
	1000	TYKW	5	S	0011.0	0011.4	3.0	9	2		
	3750	TYKW	45	C	0011.0	0011.3	2.0	3	.5		
	2000	TYKW	5	S	0011.0	0011.6	2.0	1.5	.5		
	500	HIRA	6	S	0011.3	0011.7	1.5	700	300		
	200	HIRA	46	C	0226.1	0226.4	1.0	690	95		ML
	100	HIRA	46	C	0226.4	0226.4	.9	1700	840		E
	500	HIRA	7	C	0226.4	0226.5	1.0	40	20		
	100	HIRA	42	SER	0251.0	0251.7	7.4	80000			WL
	200	HIRA	41	F	0251.0	0251.0	76.0	2250			SL
	500	HIRA	42	SER	0251.1	0257.6	7.5	5000			
	2000	TYKW	45	C	0251.3	0257.1	9.0	4.5	1 D		
	1000	TYKW	45	C	0251.3	0257.4	8.7D	22	2.5D		
	3750	TYKW	42	SER	0256.0	0257.0	2.7D	3	1 D		
	9400	TYKW	5	S	0256.8	0257.0	1.5	15	3		
	430	KRAK	42	SER	0819.0		23.5	17			
	430	KRAK	42	SER	0914.0	0921.0	138.5	70			
	430	KRAK			0914.0	0932.7		80			
	930	BORD	8	S	0953.5	0953.5	.2	14	1		
	430	KRAK			1052.0	1109.0		70			
	930	BORD	8	S	1127.0	1127.2	.3	36	2		
	430	KRAK	8	S	1222.5	1222.7	.5	32			
	930	BORD	46	C	1421.2	1421.6	.7	51	3		
	113	POTS	8	S	1436.1	1436.2	.2	700	250		III
	234	POTS	8	S	1436.1	1436.1	.1	150	50		III
	2800	OTTA	24O	R	1530.0	1610	40.0	3.6	1.8		
	2800	OTTA	24	R	1620.0	1625	5.0	3.6	1.8		
	2800	OTTA	27F	RF	1620.0		170.0	3.6	3.1		
	2800	OTTA	24P	R	1625.0		125.0	3.6			
	2800	OTTA	26	FAL	1830.0	1910	40.0	-3.6	-1.8		
10	200	GORK	44	NS	0254.0E		336.0D		5		
	113	POTS	44	NS	0548.0E	0648.5	332.0D	20			
	260	ONDR	44	NS	0549.0E		501.0D	64			
	127	TORN		NS	0700.0E		420.0D		2		V1,DISTURBED
	200	HIRA	44	NS	1916.0E	2255	240.0D	10	5		WL
	3750	TYKW	21	GRF	0115.0	0150	138.0	4	2		
	2000	TYKW	21	GRF	0120.0	0130	125.0	3	1.5		
	3750	TYKW	45	C	0250.0	0254.9	30.0	8	2.5		
	9400	TYKW	5	S	0250.0	0255	10.0	4	1 D		
	2000	TYKW	45	C	0250.0	0255.0U	30.0	4	1 D		
	200	GORK	46	C	0315.3	0315.8	2.8	45 D			
	200	GORK			0315.3	0317.1		100			
	2000	TYKW	20	GRF	0350.0	0415	85.0	3	1.5		
	3750	TYKW	20	GRF	0355.0	0415	80.0	3	1.5		
	200	GORK	2	S/F	0435.2	0436.8	3.2	30 D			
	3750	TYKW	5	S	0520.6	0520.8	1.0	2	.7		
	3750	TYKW	5	S	0525.5	0525.8	4.0	4	.5		
	1000	TYKW			0525.6	0525.7		2			
	1000	TYKW	45	C	0525.6	0526.5U	1.1	210 D	10 D		
	2000	TYKW	8	S	0525.7	0525.8	.3	2	.7		
	3100	CRIM	20	GRF	0629.0	0701.0	12.0	2	1		
	930	BORD	8	S	0652.7	0652.7	.1	19	1		
	113	POTS	8	S	0708.2	0708.3	.2	800	250		III
	430	KRAK	4	S/F	0722.0	0722.5	1.3	34	8		
	3750	TYKW	5	S	0802.0	0803.5	8.0	2.5	.7		
	9400	TYKW	5	S	0802.5	0803.4	4.0	7	2		
	430	KRAK	42	SER	0802.5	0814.7	16.0	49			
	9100	GORK	20	GRF	0802.6	0803.6	11.0	10			
	810	KRAK	8	S	0803.0	0803.0	.1	21			
	536	ONDR	8	S	0803.3	0803.3	.2	32			
	810	KRAK	8	S	0810.0	0810.0	.5	400			
	33	UPIC	4	S/F	0823.6	0824	1.0				
	29	UPIC	4	S/F	0823.7	0824.1	.8				
	3100	CRIM	24	R	0824.0	1215.0		5			
	430	KRAK	42	SER	0934.0	0948.5	19.0	41			
	930	BORD	46	C	0935.8	0936	.2	27	2		
	430	KRAK	7	C	1005.5	1007.3	5.0	30	7		
	430	KRAK	46	C	1024.0	1035.0	16.5	500	13		
	33	UPIC	2	S/F	1123.1	1123.4	.7				
	29	UPIC	2	S/F	1123.1	1123.5	.8				
	930	BORD	46	C	1132.7	1132.7	.3	39	2		
	430	KRAK	42	SER	1146.5	1226.0	48.0	130			
	2650	DWIN	8	S	1147.0			40			
	2800	OTTA	22	GRF	1400.0	1411	170.0	7.4	2.4		
	7000	SAOP	20	GRF	1400.0			8.0			E
	9400	HUAN		S	1403.7	1421.0	30.3	7.9	3.9		E
	930	BORD	46	C	1419.1	1419.1	.2	36	2		
	2695	PENT	20	GRF	2320.0	0025	120.0	10.2	5.1		
	2800	TYKW	20	GRF	2330.0	0010	110.0	6	3		
	9400	TYKW	20	GRF	2335.0	0020	105.0	8	4		
	3750	TYKW	20	GRF	2335.0	0020	105.0	7	4		
	1000	TYKW	20	GRF	2340.0	0010	100.0	5.5	3		
11	200	GORK	44	NS	0254.0E		696.0D		5		

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JUNE 1980

DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME UT	TIME OF MAXIMUN UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} MEAN	INT	POLARIZATION OR REMARKS
11	260	ONDR	44	NS	0549.0E		504.0D	25			
	430	KRAK	44	NS	0700.0E		360.0D	13			
	1000	TYKW	45	C	0133.9	0134.4	1.5	6	1		
	200	HIRA	46	C	0134.0	0134.7	1.1	54	24		R
	100	HIRA	46	C	0134.1	0134.7	1.7	430	156		WL
	1000	TYKW	45	C	0252.8	0253.2	1.0	11	3		
	3750	TYKW	45	C	0253.3	0253.5	.5	6	2.5		
	100	GORK			0319.6	0320.2		130 D			
	100	GORK	46	C	0319.6	0319.7	1.5	130 D			
	3100	CRIM	25	R	0754.0	0907.0		3.5			
	3100	CRIM	1	S	0909.0	0910.8	4.0	4.5			
	430	KRAK	42	SER	1007.5	1013.5	7.0	180			
	2650	DWIN	2	S/F	1040.0	1040	1.0	30	20		
	29	UPIC	45	C	1155.5	1156.8	2.1				
	33	UPIC	45	C	1155.5	1156.5	2.4				
	810	KRAK	8	S	1155.5	1155.5	.1	13			
	33	UPIC	4	S/F	1250.3	1250.5	1.2				
	29	UPIC	4	S/F	1250.5	1250.7	1.3				
	29	UPIC	3	S	1324.3	1324.4	.3				
	33	UPIC	3	S	1324.5	1324.5	.3				
12	260	ONDR	44	NS	0544.0E		498.0D	46			
	33	UPIC	43	NS	0906.1		374.7				
	29	UPIC	43	NS	0906.8	1025.7	373.8				
	3750	TYKW	5	S	0035.0	0039	20.0	2	1		
	9400	TYKW	5	S	0035.0	0040	25.0	2	1		
	3750	TYKW	20	GRF	0400.0	0420	100.0	3	1.5		
	2000	TYKW	20	GRF	0405.0	0430	80.0	1.5	.7		
	3750	TYKW	5	S	0558.0	0559.8	2.0D	10	2 D		
	1000	TYKW	45	C	0558.5	0559.8	1.5D	34	5 D		
	2000	TYKW	5	S	0559.0	0559.9	3.0	4	1		
	3100	CRIM	1	S	0559.0	0600.0	2.0	12	4		
	430	KRAK	42	SER	0747.0	0757.7	43.0	160			
	810	KRAK	8	S	0756.3	0756.3	.2	7			
	430	KRAK	42	SER	0906.0	0911.5	14.5	30			
	113	POTS	4	S/F	0906.5	0906.7	.5	700	140		III
	3100	CRIM	25	R	0956.0	1111.0	184.0D	8			
	100	GORK			1022.0	1026.0		325			
	100	GORK	41	F	1022.0	1022.9	5.2	125			
	100	GORK			1022.0	1024.5		170			
	113	POTS	41	F	1022.9	1025.4	3.2	1100	30		III/V
	430	KRAK	8	S	1025.3	1025.3	.7	60			
	430	KRAK	41	F	1039.5	1046.3	8.0	24	5		
	430	KRAK	3	S	1111.0	1111.5	.7	29	4		
	430	KRAK	42	SER	1204.5	1219.5	60.0D	27			
	2800	OTTA	40	F	1219.5	1234	20.0	15.6			
	2800	OTTA	27A	RF	1330.0		180.0	2.6			
	2800	OTTA	24	R	1330.0	1344	14.0	2.6	1.3		
	127	TORN	45	C	1339.3	1340.3	4.0				DISTURBED
	113	POTS	4	S/F	1339.6	1339.7	3.4	3200	150		III
	2800	OTTA	2	S/F	1339.7	1340.7	3.5	3.8	1.6		
	234	POTS	8	S	1342.5	1342.6	.1E	300	100		III
	2800	OTTA	24P	R	1344.0		124.0	2.6			
	2800	OTTA	21	GRF	1455.0	1514	52.0	3.6	1.8		
	2800	OTTA	4	S/F	1512.5	1518	2.5	21.0	7.0		
	2650	DWIN	2	S/F	1517.0	1518	2.0	20	15		
	10715	DWIN	2	S/F	1517.0	1518	2.0	15	10		
	11800	BERN	4		1517.7	1518.0	1.0	28.0			
	19600	BERN	2		1517.7	1518.1	1.0U	13.0			
	2800	OTTA	26	FAL	1548.0	1630	42.0	-5.8	-2.9		
	2800	OTTA	20	GRF	1640.0	1730	74.0	3.2	1.8		
	7000	SAOP	45	C	1717.4	1718.2	2.4	19.0			19L
	2800	OTTA	22	GRF	1755.0	2010	205.0	3.6	1.8		
	3750	TYKW	45	C	2206.0	2207.5	4.0	34	12		
	9400	TYKW	45	C	2206.0	2207.4	4.0	46	15		
	2000	TYKW	45	C	2206.0	2207.5	4.0	9	3.5		
	9400	HUAN		S	2206.1	2207.5	3.1	38.2	20.1		R
	2800	OTTA	4	S/F	2206.4	2207.5	4.6	22.0	8.0		
	2000	TYKW	29	PBI	2210.0		20.0	2	1		
	9400	TYKW	29	PBI	2210.0		25.0	6	3		
	3750	TYKW	29	PBI	2210.0		25.0	5	2		
	2800	OTTA	29	PBI	2211.0	2211	15.0	3.6	1.8		
	1000	TYKW	45	C	2237.0	2237.6	1.0	15	6		
	2000	TYKW	5	S	2237.0	2237.4	1.0	3	1		
	3750	TYKW	5	S	2237.0	2237.4	2.0	2	.5		
	100	HIRA	46	C	2237.1	2237.7	1.0	7000	1300		WL
	200	HIRA	46	C	2237.1	2237.8	1.2	700	230		
13	200	HIRA	43	NS	0110.0	0244	100.0	15	5		WR
	260	ONDR	44	NS	0540.0E		513.0D	32			
	200	GORK	43	NS	0711.0		349.0E		5		
	29	UPIC	43	NS	0809.3	0907.9	447.1				
	33	UPIC	43	NS	0809.3	0908	447.0				
	200	HIRA	44	NS	1917.0E	2228	400.0D	10	5		
	3750	TYKW	5	S	0034.0	0035.7	7.0	30	7		

SOLAR RADIO EMISSION
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JUNE 1980

DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} MEAN	INT	POLARIZATION OR REMARKS
13	2000	TYKW	5	S	0834.0	0835.9	9.0	51	9		
	2695	PENT	3	S	0834.7	0836	5.0	50.0	16.7		
	5730	IRKU	1	S	0835.0	0836.3	4.0	11	6		L
	1000	TYKW	5	S	0835.0	0836.2	8.0	39	8		
	9400	TYKW	5	S	0835.0	0836.2	4.0	14	5		
	500	HIRA	4	S/F	0835.4	0836.2	4.0	10	6		B
	200	HIRA	46	C	0835.9	0839.0	5.9	320	90		WR
	200	HIRA			0835.9	0836.0		170			B
	2695	PENT	1	S	0850.5	0854.5	6.0	4.4	2.6		
	9400	TYKW	5	S	0851.0	0853	10.0	4	1		
	3750	TYKW	20	GRF	0851.0	0852.5	30.0	4	1		
	2000	TYKW	20	GRF	0851.0	0854	30.0	1.5	.5		
	2000	TYKW	5	S	0129.0	0129.3	1.0	2	.5		
	3750	TYKW	5	S	0129.0	0129.2	1.0	3	.5		
	1000	TYKW	5	S	0129.0	0129.4	1.0	24	6		
	2000	TYKW	5	S	0154.0	0155.4	11.0	1.5	.4		
	3750	TYKW	5	S	0154.0	0155.4	10.0	2	.5		
	1000	TYKW	5	S	0155.7	0155.9	.3D	5	1 D		
	100	HIRA	41	F	0254.8	0258.4	5.1	50000	6500		B
	100	GORK			0254.9	0258.6		9400			
	100	GORK	46	C	0254.9	0255.5U	5.0	150 D			
	100	GORK			0254.9	0257.0U		150 D			
	200	GORK			0255.0	0258.4		2300			
	200	GORK	46	C	0255.0	0257.3	4.7	50 D			
	2000	TYKW	45	C	0255.0	0258.7	8.0	26	4		
	3750	TYKW	45	C	0255.0	0258.7	8.0	71	9 D		
	1000	TYKW	45	C	0256.0	0258.7	4.0	29	6		
	500	HIRA	46	C	0257.3	0258.4	2.5	400	120		SR
	200	HIRA	46	C	0257.5	0258.8	1.8	1000	530		MR
	5730	IRKU	2	S/F	0258.0	0258 U	6.0	136 D	41		L
	35000	NAGO	5	S	0258.0	0259	3.0	30			
	9400	TYKW	45	C	0258.0	0258.5	5.0	148	35		
	17000	NOBE	3	S	0258.1	0258.9	5.0	74			L
	950	GORK	21	GRF	0258.4	0301.7	14.7	8			
	650	GORK	4	S/F	0258.5E	0258.8	2.2D	30			
	950	GORK	1	S	0258.6	0259.9	1.4	9			
	9400	TYKW	29	PBI	0303.0		7.0	2	1		
	3750	TYKW	29	PBI	0303.0		7.0	1.5	.5		
	100	GORK	8	S	0338.0	0339.0U	1.5	200 D			
	200	GORK	3	S	0338.3	0338.7	1.0	50 D			
	6100	KISV			0621.0	0622.3		7			
	6100	KISV	45	C	0621.0	0621.7	2.0	7			
	8400	BERN	2		0621.0	0621.8	1.8	7.0			
	3750	TYKW	21	GRF	0621.0	0652	90.0	4	1.5		
	2000	TYKW	21	GRF	0621.0	0650	90.0	2	1		
	9400	TYKW	5	S	0621.0	0621.8	3.0	7	2		
	2000	TYKW	5	S	0621.0	0622.0	4.0	5	1		
	9400	TYKW	21	GRF	0621.0	0650	70.0	3	1.5		
	3750	TYKW	5	S	0621.0	0621.9	3.0	8	3		
	9100	GORK	20	GRF	0621.6	0622.1	9.2	7.8	3		
	950	GORK	20	GRF	0621.7	0624.5	9.1	4	2		
	5000	BERN	2		0621.7	0622.4	1.5	8.0			
	3750	TYKW	5	S	0641.0	0641.8	4.0	3.5	1.5		
	3750	TYKW	5	S	0730.0	0730.4	1.0	4	1		
	3000	POTS	1	S	0730.0	0730.5	1.0	3.6			
	6100	KISV	45	C	0730.0	0730.3	.5	5			
	430	KRAK	47	GB	0805.5	0805.5	7.0	400	200		
	430	KRAK			0805.5	0808.5		600 D			
	1000	TYKW	8	S	0809.6	0809.7	.2	32	8 U		
	930	BORD	8	S	0809.7	0809.7	.2	112	1		
	3100	CRIM	3	S	0810.0	0812.5	8.0	25	8		
	9500	POTS	20	GRF	0810.0U	0826.5	103.0U	7			
	3000	POTS	29	PBI	0810.0	0812.4	98.0	25			
	3750	TYKW	45	C	0810.0	0813.5	10.0	24	9		
	9400	TYKW	20	GRF	0810.0	0830	50.0D	11	9 D		
	2000	TYKW	45	C	0811.0	0812.4	9.0	14	7		
	2650	DWIN	2	S/F	0811.0	0813	5.0	30	15		
	5000	BERN	22		0811.4	0813.4	190.0	17.0			
	8400	BERN	22		0811.5	0838.5	190.0U	16.0			
	1470	POTS	40	F	0811.5	0815.8	22.0	12			
	11800	BERN	22		0811.5	0817.6	190.0U	14.0			
	1000	TYKW	45	C	0813.0	0816.6	20.0	14	2		
	3100	CRIM	29	PBI	0818.0	0818.0	40.0	9	3		
	2000	TYKW	29	PBI	0820.0		40.0D	4	3.5D		
	3750	TYKW	29	PBI	0820.0		40.0D	7	6 D		
	430	KRAK	42	SER	0820.5	0826.5	7.5	38			
	2950	GORK	1	S	0902.0	0902.3	1.2	3.0	1.5		
	200	GORK	2	S/F	0905.2	0907.8	3.6	50 D			
	100	GORK			0905.3	0907.5U		190 D			
	100	GORK	46	C	0905.3	0906 U	3.5	190 D			
	650	GORK			0905.3	0921.2		8			
	650	GORK	41	F	0905.3	0907.7	17.5	16			
	430	KRAK	46	C	0905.5	0908.0	6.0	500	20		
	536	ONDR	42	SER	0906.2	0907.5	15.0	88			
	260	ONDR	45	C	0906.5	0907.8	3.5	182	62		

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DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY MEAN	INT	POLARIZATION OR REMARKS
13	2950	GORK	1	S	0907.5	0908.2	1.3	3	1.5		
	950	GORK			0907.5	0912.3		6			
	950	GORK			0907.5	0910.0		4			
	950	GORK	41	F	0907.5	0907.7	5.9	4.5			
	810	KRAK	8	S	0908.3	0908.3	.1	31			
	810	KRAK	8	S	0910.0	0910.0	.1	14			
	430	KRAK	8	S	0920.3	0920.7	.5	13			
	9100	GORK	1	S	0920.6	0920.9	4.4	6.6	2.5		
	2956	GORK	1	S	0920.8	0921.1	1.1	2.1	1		
	950	GORK	1	S	0920.8	0921.2	.6	7	3		
	930	BORD	46	C	0940.8	0941.2	.8	12	3		
	930	BORD	8	S	0945.8	0946	.2	10	1		
	930	BORD	8	S	1013.6	1013.6	.1	120	1		
	113	POTS	8	S	1014.1	1014.2	.2	200	70		III
	100	GORK	8	S	1048.8	1048.9	.5	190 D			
	930	BORD	8	S	1121.2	1121.3	.4	28	2		
	200	GORK	2	S/F	1145.3	1145.6	1.0	45			
	100	GORK	4	S/F	1145.3	1145.5	1.0	170			
	430	KRAK	8	S	1242.7	1243.3	.7	70			
	113	POTS	42	SER	1304.1	1312.2	8.4	350	3		III
	127	TORN	42	SER	1307.8	1311.8	6.8	240			
	7000	SAOP	3	S	1404.8	1406.8		11.8			21R
	2695	PENT	1	S	1405.8	1406	1.5	4.6	2.2		
	930	BORD	46	C	1414.5	1414.9	2.0	224	4		
	2695	PENT	1	S	1415.8	1415.5	1.5	5.4	2.7		
	1470	POTS	1	S	1415.8	1415.5	1.5	3.5			
	930	BORD	46	C	1423.8	1423.9	.5	11	2		
	930	BORD	46	C	1659.4	1659.8	.5	17	2		
	930	BORD	46	C	1732.0	1732.3	.4	29	2		
	228	HARS	7	C	1907.5	1908.2	2.0	95	30		
	2800	OTTA	21	GRF	2130.0	2320	210.0	7.0			
	2800	TYKW	21	GRF	2200.0	2300	120.0	2	1		
	9400	TYKW	21	GRF	2200.0	2300	120.0	6	3		
	3750	TYKW	21	GRF	2200.0	2300	120.0	4	2		
	9400	TYKW	45	C	2233.0	2234.2	3.0	33	8		
	17000	NODE	1	S	2233.0	2234.2	2.0	33			R
	3750	TYKW	5	S	2234.0	2234.3	2.0	7	2		
	2800	OTTA	8	S	2234.7	2234.7	.1	7.0			
	2800	OTTA	1	S	2250.0	2251.5	3.0	4.2	2.1		
	3750	TYKW	5	S	2250.0	2251.5	4.0	3	1.5		
	2000	TYKW	5	S	2250.0	2251.0	3.0	3	1		
	1000	TYKW	20	GRF	2316.0	2322	35.0	2	1		
	2800	TYKW	45	C	2317.0	2326.6	30.0	19	1.5		
14	200	GORK	44	NS	0303.0E		417.0D		5		
	260	ONDR	44	NS	0520.0E		370.0D	10			
	3750	TYKW	20	GRF	0110.0	0130	80.0	4	2		
	2000	TYKW	20	GRF	0110.0	0130	70.0	1	.5		
	9400	TYKW	20	GRF	0110.0	0115	80.0	6	3		
	9100	GORK	21	GRF	0354.7	0403.4	44.0	10	4		
	2000	TYKW	5	S	0355.0	0355.8	2.0	11	4.5		
	9400	TYKW	5	S	0355.0	0355.7	2.0	40	15		
	3750	TYKW	5	S	0355.0	0355.8	2.0	44	20		
	5730	IRKU	45	C	0355.2	0355.8	3.0	42	11		L
	5730	IRKU			0355.2	0357.5		9			L
	2950	GORK	3	S	0355.4	0356.0	1.5	32	16		
	9100	GORK	2	S/F	0355.4	0355.9	1.6	40	16		
	2950	GORK	29	PBI	0356.9	0357.0	21.0	5			
	9400	TYKW	29	PBI	0357.0		45.0	8	5		
	3750	TYKW	29	PBI	0357.0		45.0	8	4		
	2000	TYKW	29	PBI	0357.0		45.0	2	1		
	6100	KISV	45	C	0545.0	0548	10.0	13			
	9400	TYKW	5	S	0545.5	0545.8	1.5	8	2.5		
	3750	TYKW	5	S	0546.0	0548.8	9.0	16	5		
	3100	CRIM	1	S	0547.5	0549.0	5.0	12	4		
	9100	GORK	22	GRF	0547.9	0631.7	79.5	20			
	2950	GORK	1	S	0548.0	0548.9	6.3	7.3			
	9400	TYKW	21	GRF	0548.0	0608	100.0	8	4		
	2000	TYKW	5	S	0548.0	0549	10.0	2	1		
	3750	TYKW	30	PBI	0555.0		70.0	3.5	1.5		
	9400	TYKW	20	GRF	0627.0	0632	35.0	10	5		
	3750	TYKW	5	S	0627.0	0628	25.0	6	2		
	2950	GORK	1	S	0627.4	0628.5	2.6	2.5	1		
	33	UPIC	45	C	0640.6	0641.6	2.0				
	29	UPIC	45	C	0642.0E	0642.6	.9D				
	430	KRAK	8	S	0712.5	0712.5	.1	8			
	810	KRAK	8	S	0724.3	0724.3	.1D	13			
	430	KRAK	8	S	0724.5	0724.5	.1	4			
	536	ONDR	8	S	0725.0	0725	.2	91			
	810	KRAK	1	S	0818.5	0819.8	1.8	10	5		
	430	KRAK	4	S/F	0821.5	0822.8	1.3	100	5		
	430	KRAK	8	S	0825.5	0825.5	.5	10			
	1000	TYKW	5	S	0827.5	0827.6	.5	46	12		
	430	KRAK	1	S	0841.7	0842.3	1.7	9	4		
	810	KRAK	8	S	0842.0U	0843.0U	1.0U	24			

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DAY OF MONTH	FREQUENCY	STATION	TYPE	STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1}		INT	POLARIZATION OR REMARKS
				UT	UT	MINUTES	PEAK	MEAN		
14	536	ONDR	2 S/P	0842.5	0843.3	2.0	14	7.7		
	650	GORK	4 S/P	0842.5	0843.5	2.4	15	4		
	933	BORD	46 C	0843.0	0843.2	1.0	42	5		
	950	GORK	4 S/P	0843.0	0843.2	1.0	24			
	2650	DWIN	2 S/P	0843.0	0843	1.0	25	10		
	2000	TYKW	45 C	0843.0	0843.3	1.2	15	3		
	1000	TYKW	45 C	0843.0	0843.3	1.2	35	10		
	2950	GORK	1 S	0843.1	0843.2	.6	4	2		
	606	ONDR	2 S/P	0843.2	0843.2	1.0	25	2		
	2800	OTTA	240 R	1320.0	1340	28.0	3.4	1.6		
	7000	SAOP	45 C	1420.0	1449.0	69.0	57.0			11L
	2800	OTTA	21 GRF	1447.0	1530	70.0	6.8			
	5000	BERN	21	1448.0	1449.7	80.0	55.0			
	11800	BERN	21	1448.0	1512.0	80.0U	15.0			
	2800	OTTA	4 S/P	1448.0	1449.6	15.0	19.0	8.4		
	2800	OTTA	28 PRE	1658.0		2.0	3.4	2.6		
	2800	OTTA	3 S	1700.0	1701.9	3.0	50.0	16.0		
	2650	DWIN	3 S	1700.0	1702	3.0	50	30		
	930	BORD	3 S	1700.0	1701.5	3.0	13	6		
	228	HARS	7 C	1700.0	1700.8	8.0	150	25		
	7000	SAOP	3 S	1700.6	1701.5	1.6	22.0			3R
	5000	BERN	3	1701.0	1701.7	5.0	34.0			
	11800	BERN	3	1701.0U	1702.0U	5.0U	15.0U			
	2800	OTTA	30 PBI	1703.0	1703	7.0	3.4	1.7		
	2695	PENT	2 S/P	1705.0	1706	3.0	6.2	3.2		
	2800	OTTA	21 GRF	1810.0	1900	170.0	4.6	2.3		
	2800	OTTA	3 S	1822.0	1823.7	5.0	66.0	17.0		
	2650	DWIN	3 S	1823.0	1824	6.0	55	30		
	930	BORD	3 S	1823.0	1824	3.0	16	7		
	7000	SAOP	4 S/P	1823.0	1824.0	12.0	37.0			23L
	2800	OTTA	29 PBI	1827.0	1827	15.0	2.2	1.1		
	3750	TYKW	21 GRF	2150.0	2220	90.0	4	2		
	2000	TYKW	20 GRF	2150.0	2210	90.0	3	1.5		
	2800	OTTA	20 GRF	2155.0	2220	75.0	3.6	2.0		
	9400	TYKW	5 S	2252.5	2252.7	.5	10	5		
	3750	TYKW	5 S	2252.5	2252.7	.5	1.5	.5		
	9400	TYKW	5 S	2255.0	2256.3	25.0	4	1		
	3750	TYKW	5 S	2255.0	2256.4	15.0	5	1.5		
	9400	TYKW	20 GRF	2340.0	2355	60.0	4	2		
	3750	TYKW	21 GRF	2340.0	0015	120.0	3	1.5		
	2000	TYKW	20 GRF	2340.0	0015	120.0	1	.5		
	260	ONDR	44 NS	0535.0E		519.0D	47			
	3750	TYKW	20 GRF	0058.0	0100	35.0	3	1.5		
	1000	TYKW	21 GRF	0150.0	0250	200.0	2	1		
	2000	TYKW	20 GRF	0210.0	0300	180.0	3	1.5		
	3750	TYKW	21 GRF	0210.0	0250	100.0	3	1.5		
	3750	TYKW	5 S	0405.0	0410	12.0	3	1		
	3750	TYKW	45 C	0425.0	0426.4	25.0	5	2		
	9400	TYKW	20 GRF	0425.0	0440	50.0	4	2		
	1000	TYKW	5 S	0432.8	0433.1	1.0	2	.5		
	430	KRAK	42 SER	0915.0		140.0	20			
	228	HARS	7 C	0943.5	0944.0	1.5	170 D	40		
	234	POTS	4 S/P	0943.7	0943.9	.5	200	50		
	430	KRAK	8 S	1159.3	1159.5	.5	18			
	810	KRAK	8 S	1159.5	1159.5	.1	14			
	930	BORD	41 F	1200.7	1200.8	1.4	23	2		
	2650	DWIN	2 S/P	1315.0	1318	7.0	30	20		
	1470	POTS	4 S/P	1315.5	1317.5	7.0	15			
	2800	OTTA	4 S/P	1315.7	1317.7	8.0	29.8	10.0		
	9500	POTS	29 PBI	1316.0	1318.3	45.0	11			
	5000	BERN	3	1316.0	1318.1	6.0	20.0			
	9400	HUAN	S	1316.0	1318.3	37.2	11.5	6.0		L
	2800	OTTA	20 GRF	1350.0	1530	190.0	5.6	3.0		
	7000	SAOP	45 C	1515.0	1518.4	30.0	22.0			21L
	7000	SAOP	3 S	1530.5	1532.0		13.0			41L
	29	UPIC	8 S	1530.7	1531	.7				
	33	UPIC	8 S	1530.8	1530.9	.6				
	5000	BERN	3	1723.0	1724.1	4.0	17.0			
	2800	OTTA	4 S/P	1727.0	1727.8	5.0	23.0	5.0		
	2650	DWIN	2 S/P	1727.0	1728	2.0	20	15		
	7000	SAOP	1 S	1727.6	1728.1		10.0			28L
	2800	OTTA	1 S	2027.8	2028.5	1.5	8.4	4.2		
16	260	ONDR	44 NS	0545.0E		508.0D	26			
	200	GORK	43 S/P	0338.0		235.0		5		
	810	KRAK	1 S	0744.0	0744.0	.1	8			
	430	KRAK	41 F	0744.0	0746.5	2.5	19	3		
	430	KRAK	8 S	0852.5	0852.7	.5	10			
	200	GORK	4 S/P	0918.5	0920.6	2.8	60 D			
	228	HARS	45 C	0919.0	0921.4	2.5	250	80		
	234	POTS	41 F	0919.2	0920.7	1.8	475	4		III
	810	KRAK	8 S	0920.3	0920.5	.5	48			
	430	KRAK	8 S	0920.3	0920.3	.5	22			
	650	GORK	4 S/P	0920.4	0920.6	.4	30	10		

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DAY OF MONTH	FREQUENCY	STATION	TYPE	STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1}		INT	POLARIZATION OR REMARKS
				UT	UT	MINUTES	PEAK	MEAN		
16	930	BORD	46 C	0920.4	0920.6	.7	23	3		
	950	GORK	3 S	0920.5	0920.8	.5	10	5		
	430	KRAK	1 S	0935.7	0935.7	.5	12	2		
	430	KRAK	1 S	1044.5	1045.0	.5	10	2		
	7000	SAOP	40 F	1531.0		27.0				
	930	BORD	46 C	1614.0	1615	.8	33	3		
	7000	SAOP	40 F	1729.0		7.0				
	2695	PENT	240AR	2205.0	0050	165.0	16.2	8.1		
	3750	TYKW	21 GRF	2250.0	0115	350.0	14	6		
	2000	TYKW	21 GRF	2250.0	0100	350.0	8	4		
	9400	TYKW	20 GRF	2250.0U	0115	350.0U	13	5 U		RAIN
	1000	TYKW	20 GRF	2250.0	0100	350.0	2.5	1		
	3750	TYKW	5 S	2327.0	2332	15.0	7	2.5		
	2695	PENT	1 S	2329.0	2332.5	8.0	6.4	3.2		
17	260	ONDR	44 NS	0544.0E		462.0D	70	3		
	3750	TYKW	20 GRF	0500.0	0520	100.0	3	1.5		
	2000	TYKW	20 GRF	0500.0	0520	100.0	3	1.5		
	9400	TYKW	20 GRF	0500.0	0520	100.0	3	1.5		
	650	GORK	22 GRF	0632.1	0649.6	30.6	5			
	9400	TYKW	20 GRF	0710.0	0725	40.0	2	1		
	3750	TYKW	20 GRF	0710.0	0725	40.0	2	1		
	2000	TYKW	5 S	0714.0	0716	5.0	2	.5		
	1000	TYKW	5 S	0756.4	0756.7	2.0	7	2		
	2800	OTTA	22 GRF	1130.0	1220	200.0	4.4	3.0		
	7000	SAOP	40 F	1431.0		13.0				
	9400	HUAN	S	1706.6	1711.0	11.4	8.6	5.2		R
	2800	OTTA	20 GRF	1740.0		135.0	3.0	2.3		
	2695	PENT	20 GRF	2240.0	2400	160.0	7.6	3.4		
	3750	TYKW	20 GRF	2320.0	2359	120.0	6	3		
	2000	TYKW	20 GRF	2320.0	2359	120.0	5	2.5		
18	260	ONDR	44 NS	0552.0E		525.0D	70	5		
	204	IZMI	44 NS	0600.0E		300.0D	40			
	200	GORK	43 NS	0645.0		100.0		5		
	3100	CRIM	21 GRF	0806.0	0856.0	60.0	4	1		
	3100	CRIM	45 C	0855.0	0859.0	35.0	10	3		
	3100	CRIM		0855.0	0924.0					
	430	KRAK	42 SER	0855.3	0859.0	33.0	200	7		
	5100	BERN	20	0856.0	0858.3	18.0	13.0			
	2950	GORK	20 GRF	0857.3	0858.8	9.2	6.2	3		
	6100	KISV	45 C	0859.0	0903	12.0	16			
	2800	OTTA	240 R	1210.0	1240	30.0	3.6	1.8		
	2800	OTTA	240 R	1400.0	1455	55.0	3.6	1.8		
	2800	OTTA	21 GRF	1850.0	1917	55.0	14.6	5.8		
	2800	OTTA	2 S/F	1852.2	1853.8	3.5	5.6	2.0		
	2000	TYKW	45 C	2229.5	2229.6	.6	3	.5U		
	1000	TYKW	45 C	2229.6	2229.7	.6	5	.5U		
	2695	PENT	240AR	2245.0	2450	125.0	8.6	4.3		
	3750	TYKW	5 S	2317.2	2317.3	.4	2	.7		
	2695	PENT	3 S	2317.4	2317.7	3.0	31.0	10.4		
	1000	TYKW	42 SER	2334.5	2337.2	4.5	17	1		
	2000	TYKW	5 S	2337.0	2337.7	4.0	25	6		
	3750	TYKW	5 S	2337.0	2337.4	4.0	32	7		
	9400	TYKW	5 S	2337.0	2337.4	2.0	4	1		
	3750	TYKW	5 S	2357.0	2359	8.0	1.5	.5D		
19	260	ONDR	44 NS	0642.0E		449.0D	185	8		
	9400	TYKW	5 S	0007.8	0008.2	2.0	5	1		
	2000	TYKW	5 S	0007.8	0008.3	2.0	2	.5		
	3750	TYKW	5 S	0007.8	0008.3	2.0	3	1		
	1000	TYKW	5 S	0007.8	0008.0	.7	7	1		
	2695	PENT	1 S	0018 0	0018.2	1.0	3.4	1.7		
	3750	TYKW	20 GRF	0034.0	0055	50.0	3	1.5		
	2000	TYKW	21 GRF	0034.0	0055	50.0	1.5	.7		
	2000	TYKW	5 S	0109.0	0109.3	7.0	3	.5		
	1000	TYKW	8 S	0111.1	0111.2	.2	4.5	1		
	3750	TYKW	5 S	0117.0	0118.0	3.0	4	1		
	1000	TYKW	8 S	0133.6	0133.7	.2	14	5		
	9400	TYKW	5 S	0134.0	0134.2	1.0	5	1		
	3750	TYKW	5 S	0134.0	0134.3	2.0	5	1		
	2000	TYKW	5 S	0134.0	0134.3	1.5	3.5	1		
	1000	TYKW	8 S	0134.2	0134.2	.2	5	1		
	2695	PENT	8 S	0134.2	0134.4	.4	5.2	2.6		
	3750	TYKW	5 S	0137.5	0137.9	1.0	1.5	.5		
	1000	TYKW	45 C	0137.7	0138.1	.5	65	10		
	3750	TYKW	28 PRE	0142.0	0145	13.0	5	2.5		
	9400	TYKW	5 S	0155.0	0155.7	3.0	35	12		
	3750	TYKW	5 S	0155.0	0155.7	3.0	33	9		
	2000	TYKW	5 S	0155.0	0155.8	7.0	12	2.5		
	17000	NOBE	1 S	0155.4	0155.9	4.0	21			0
	9400	TYKW	30 PBI	0158.0		23.0	4	1		
	3750	TYKW	30 PBI	0158.0		25.0	3	1.5		
	2000	TYKW	5 S	0217.8	0218.0	1.5	3	1		
	9400	TYKW	5 S	0217.8	0218.1	.6	3	1		

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DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY MEAN	INT	POLARIZATION OR REMARKS
19	1000	TYKW	5	S	0239.0	0239.5	2.0	4.5	1		
	650	GORK	22	GRF	0306.0	0333.0	108.0	8			
	3750	TYKW	5	S	0411.0	0412.2	5.0	5	2		
	2950	GORK	1	S	0411.4	0412.0	6.1	3	2		
	2000	TYKW	5	S	0420.0	0420.6	2.0	1.5	.5		
	1000	TYKW	8	S	0450.5	0450.6	.2	11	3		
	2000	TYKW	21	GRF	0455.0	0505	50.0	3	1.5		
	2000	TYKW	45	C	0500.0	0500.4	2.0	17	2		
	3750	TYKW	21	GRF	0500.0	0515	45.0	2.5	1.5		
	3750	TYKW	5	S	0500.0	0500.4	2.0	4	1.5		
	2000	TYKW	20	GRF	0600.0	0625	50.0	2	1		
	3750	TYKW	20	GRF	0603.0E	0625	47.0D	4	2 D		
	3100	CRIM	21	GRF	0617.0	0624.0	16.0	3	1		
	9400	TYKW	5	S	0620.0	0625	20.0	4	2		
	3100	CRIM	1	S	0624.0	0625.0	1.5	3	1		
	2950	GORK	1	S	0625.4	0625.8	1.0	2	1		
	3750	TYKW	45	C	0703.0	0712.0	37.0	26	12		
	3100	CRIM			0703.5	0725.0	122.0	23	7		
	3100	CRIM	45	C	0703.5	0711.0		24	8		
	5200	BERM	28		0704.0	0752.6	90.0	28.0			
	8400	BERM	20		0704.0	0752.0U	90.0	14.0			
	3000	POTS	21	GRF	0705.0	0712	85.0	19			
	2000	TYKW	45	C	0705.0	0726	35.0	10	4		
	9400	TYKW	21	GRF	0705.0	0745	105.0	9	4.5		
	9100	GORK	20	GRF	0705.0	0735.0	116.0	13			
	9500	POTS	20	GRF	0707.0	0736	108.0	11			
	2950	GORK	20	GRF	0709.6	0712.3	49.4	13	7		
	9400	TYKW	5	S	0711.5	0712.0	1.5	11	3		
	1470	POTS	20	GRF	0720.0	0740	65.0	3.7			
	2000	TYKW	29	PBI	0740.0		70.0	6	3 U		
	3750	TYKW	29	PBI	0740.0		70.0	14	7		
	536	ONDR	8	S	0822.3	0822.3	.2	25			
	113	POTS	4	S/F	0827.0	0828.0	.5	400	100		III
	100	GORK	8	S	0828.0	0828.2	1.0	200 D			
	3100	CRIM	21	GRF	0858.0	0929.0	102.0	11	4		
	2950	GORK	40	F	0907.2	0911.5	8.5	5.5			
	3100	CRIM	1	S	0911.0	0911.5	1.0	4	1		
	2950	GORK	20	GRF	0926.2	0935.0	25.1	6.5	3		
	3100	CRIM	20	GRF	1024.0	1115.0	150.0	13	4		
	5200	BERM	20		1058.0	1115.0U	110.0U	40.0			
	2800	OTTA	22	GRF	1100.0	1114	90.0	10.2	5.0		
	234	POTS	4	S/F	1100.7	1100.7	.2	260	25		
	3000	POTS	20	GRF	1105.0	1117.5	97.0	10			
	430	KRAK	41	F	1107.0		74.0	24	4		
	1470	POTS	20	GRF	1112.5	1114.7	78.0	3.8			
	9500	POTS	20	GRF	1120.0	1126.7	68.0	8			
	234	POTS	4	S/F	1443.6	1443.8	.3	240	40		
	2800	OTTA	21	GRF	1610.0	1655	115.0	5.8	2.9		
	2800	OTTA	20	GRF	1620.0	1624	12.0	4.8	2.8		
	930	BORD	46	C	1629.8	1629.9	.4	31	2		
	7000	SAOP	40	F	1729.0		9.0				
	2800	OTTA	20	GRF	1742.0	1744	20.0	5.4	3.6		
	9400	HUAN		S	1816.4	1842.5	43.3	15.4	6.7		L
	2800	OTTA	46F	C	1830.5	1834.5	5.5	33.4	13.2		
	930	BORD	46	C	1831.0	1839	8.0D	50 D			
	7000	SAOP	45	C	1832.4	1839.1	2.6	211.0			10L
	2800	OTTA	30	PBI	1836.0	1836	40.0	10.4	3.4		
	9400	HUAN		S	1837.8	1839.0	3.5	138.7	43.2		L
	2800	OTTA	4	S/F	1838.0	1839.1	4.8	200.0	40.6		
	2650	DWIN	45	C	1848.0	1849	3.0	160	50		
	2800	OTTA	21	GRF	1945.0	2020	165.0	25.0	13.0		
	2800	OTTA	4	S/F	1949.0	1951.5	8.0	50.0	25.0		
	2000	TYKW	20	GRF	2240.0	2250	170.0	6	3		
	3750	TYKW	20	GRF	2240.0	2348	180.0	8	3.5		
	1000	TYKW	20	GRF	2240.0	2250	170.0	3	1.5		
	2695	PENT	21	GRF	2245.0	2305	165.0	5.0	3.2		
	9400	TYKW	20	GRF	2250.0	2350	170.0U	4	2		RAIN
	2695	PENT	1	S	2348.3	2349	1.7	4.0	2.0		
20	260	ONDR	44	NS	0546.0E		497.0D	27			
	3750	TYKW	5	S	0205.0	0207.4	6.0	5	1.5		
	9400	TYKW	5	S	0205.0	0206.7	4.6	3.5	1		
	1000	TYKW	21	GRF	0320.0	0840	335.0D	6	3 D		
	2000	TYKW	21	GRF	0320.0	0840	340.0D	18	9 D		
	3750	TYKW	5	S	0320.0	0321.8	7.0	3	1		
	3750	TYKW	21	GRF	0320.0	0740	340.0D	16	8 D		
	2950	GORK	23	GRF	0432.9	1151.1	377.0	20			
	1000	TYKW	8	S	0438.6	0438.7	.2	23	6		
	1000	TYKW	8	S	0442.9	0442.9	.1	73	25		
	1000	TYKW	47	GB	0444.3	0445.6	2.0	1080	100		
	2000	TYKW	42	SER	0444.3	0445.5	1.5	4	.7		
	9400	TYKW	5	S	0445.0	0451.3	20.0	38	7		
	9400	TYKW	21	GRF	0445.0	0840 U	255.0D	24 U	12 D		RAIN
	3750	TYKW	5	S	0445.0	0451.3	25.0	47	7		
	6100	KISV	4	S/F	0445.0	0451.5	10.0	60			

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DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1}		INT	POLARIZATION OR REMARKS
					UT	UT	MINUTES	PEAK	MEAN		
20	2000	TYKW	5	S	0446.0	0451.3	24.0	12	2		
	9100	GORK	21	GRF	0447.4	0454.0	8.0	8.6			
	2950	GORK	1	S	0450.0	0451.6	6.1	22	11		
	8400	BERN	3		0450.2	0451.4	2.8	35.0U			
	11800	BERN	3		0450.2	0451.3	2.8	30.0U			
	5200	BERN	3		0450.2	0451.1	2.8	42.0			
	9100	GORK	3	S	0450.6	0451.6	2.6	40	19		
	2000	TYKW	8	S	0458.8	0458.8	.1	14	4		
	3750	TYKW	5	S	0528.0	0530	15.0	2	1		
	2000	TYKW	5	S	0528.0	0528.8	5.0	2	.5		
	3750	TYKW	5	S	0546.0	0548	20.0	2	1		
	2000	TYKW	45	C	0546.0	0547.2	4.0	5	1		
	3750	TYKW	5	S	0638.0	0643	15.0	5	1.5		
	2000	TYKW	5	S	0659.0	0701	20.0	1.5	.5		
	3750	TYKW	5	S	0703.0	0705	15.0	2	1		
	234	POTS	45	C	0720.0E	0725	27.0D	170			
	2000	TYKW	20	GRF	0730.0	0740	40.0	2	1		
	810	KRAK	8	S	0756.3	0756.3	.1	22			
	650	GORK	1	S	0808.1	0808.5	3.0	3	1.5		
	950	GORK	1	S	0808.3	0808.8	2.5	5			
	3100	CRIM	1	S	1143.0	1158.0	10.0	9	3		
	2800	OTTA	22	GRF	1145.0	1152	65.0	7.4	3.4		
	1470	POTS	20	GRF	1146.0	1151	44.0	3.9			
	810	KRAK	8	S	1202.7	1202.7	.1	11			
	7000	SAOP	1	S	1203.0	1205.3		9.0			8L
	6100	KISV	27	RF	1203.0	1205.5	6.0	6			
	6100	KISV	4	S/F	1255.0	1255.3	1.0	5			
	228	HARS	45	C	1349.0	1349.4	1.2	100	35		
	2800	OTTA	1	S	1509.5	1510.2	2.0	3.4	1.4		
	2800	OTTA	21	GRF	1640.0	1715	120.0	4.2	2.1		
	2800	OTTA	20	GRF	1815.0	1819	15.0	2.4	1.2		
	2800	OTTA	22	GRF	1900.0	1905	55.0	2.8	1.4		
	2800	OTTA	20	GRF	2000.0	2015	115.0	5.0	2.5		
	1000	TYKW	5	S	2331.5	2331.7	.5	17	5		
21	200	GORK	44	NS	0309.0E		400.0D		10		
	100	GORK	43	NS	0309.0		243.0		5		
	260	ONDR	44	NS	0618.0E		385.0D	29			
	127	TORN	43	NS	0648.0		512.0		8		V1,DISTURBED
	113	POTS	43	NS	0710.0	1033	390.0	25			
	100	GORK	43	NS	0712.0		156.0E	30			
	9400	TYKW	28	PRE	0038.0	0040	40.0	5	2.5		
	2000	TYKW	28	PRE	0000.0	0040	40.0	10	3		
	3750	TYKW	28	PRE	0003.0E	0040	37.0D	8	4 D		
	1000	TYKW	28	PRE	0003.0E	0040	37.0D	7	3 D		
	17000	NOBE	21	GRF	0037.2	0054.0	180.0	31			L
	2695	PENT	47	GB	0038.0	0119	50.0	522.0	89.0		
	100	HIRA	46	C	0039.6	0054.6	68.0	5900	180		
	500	HIRA	4	S/F	0040.0	0103.4	32.0	30	18		WR
	1000	TYKW	45	C	0040.0	0101.3	33.0	150	60		
	2000	TYKW	45	C	0040.0	0058.6	33.0	235	95		
	9400	TYKW	45	C	0040.0	0056.2	33.0	65	35		
	3750	TYKW	45	C	0040.0	0058.6	33.0	136	65		
	100	HIRA			0107.6	0118.7		2500			WL
	500	HIRA	46	C	0113.0	0119.3	14.0	350	80		WL
	9400	TYKW	30	PBI	0113.0		205.0	32	12		
	3750	TYKW	47	GB	0113.0	0118.8	25.0	540	45		
	3750	TYKW	30	PBI	0113.0		205.0	30	11		
	1000	TYKW	30	PBI	0113.0		205.0	21	6		
	1000	TYKW	45	C	0113.0	0118.9	25.0	244	60		
	2000	TYKW	5	S	0113.0	0118.8	25.0	375	45		
	2000	TYKW	30	PBI	0113.0		205.0	23	7		
	9400	TYKW	47	GB	0115.0	0118.8	15.0	1370	70		
	17000	NOBE	47	GB	0117.3	0118.7	3.3	2200			0
	35000	NAGO	5	S	0118.0	0119	7.0	2617			
	17000	NOBE	30	PBI	0120.6	0120.7	8.0	30			0
	17000	NOBE	1	S	0126.7	0126.9	.7	10			0
	2695	PENT	29	PBI	0128.0	0128	20.0D	32.0			
	2000	TYKW	5	S	0139.0	0141.6	9.0	12	5		
	1000	TYKW	5	S	0139.0	0141.8	15.0	29	9		
	3750	TYKW	5	S	0139.0	0141	8.0	2	1		
	9400	TYKW	5	S	0148.0	0148.3	2.0	22	4		
	2000	TYKW	5	S	0148.0	0148.3	2.0	5	1.5		
	3750	TYKW	5	S	0148.0	0148.3	2.0	8	2		
	9400	TYKW	45	C	0250.0	0252.5	5.0	13	4		
	3750	TYKW	5	S	0250.0	0252.5	5.0	3	1		
	2000	TYKW	5	S	0251.0	0252.8	3.5	1.5	.5		
	9400	TYKW	5	S	0334.0	0334.8	3.0	5	1.5		
	650	GORK	1	S	0336.2	0336.4	.4	6	3		
	950	GORK	1	S	0336.4	0336.5	.4	3			
	9100	GORK	20	GRF	0441.1	0457.8	34.7	6			
	3750	TYKW	21	GRF	0447.0	0500	35.0	2	1		
	9400	TYKW	21	GRF	0447.0	0458	35.0	4	2		
	33	UPIC	1	S	0447.9	0448.1	.7				
	29	UPIC	1	S	0448.3	0448.4	.2				

SOLAR RADIO EMISSION
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DAY OF MONTH	FREQUENCY	STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY MEAN	INT	POLARIZATION OR REMARKS
21	3750	TYKW	5 S	0553.0	0554.5	6.0	2	1		
	8400	BERN	3	0553.2	0554.0	2.0	43.0			
	11800	BERN	3	0553.2	0554.0	2.0	60.0			
	6100	KISV	4 S/F	0553.3	0554	5.0	26			
	9100	GORK	45 C	0553.4	0554.3	5.8	100			
	9100	GORK		0553.4	0556.8		20			
	15000	KISV	4 S/F	0553.5	0554.3	2.8	40			
	9400	TYKW	45 C	0553.5	0554.2	5.5	112	10		
	17000	NOBE	1 S	0554.0	0554.2	1.0	46			0
	3100	CRIM	24 R	0635.0	0845.0		12			
	810	KRAK	8 S	0843.0	0843.0	.1	11			
	9100	GORK		0843.9	0846.1		34			
	9100	GORK	46 C	0843.9	0844.2	5.3	14			
	10715	DWIN	45 C	0844.0	0846	3.0	20	10		
	9400	TYKW	45 C	0844.0	0846.0	4.0	35	7		
	11800	BERN	1	0845.5	0845.5	2.0	12.0			
	8400	BERN	1	0845.5	0845.5	2.0	15.0			
	9500	POTS	3 S	0846.0	0846	2.0	19			
	33	UPIC	42 SER	1041.0		28.3				
	29	UPIC	42 SER	1041.1	1109.1	28.6				
	2800	OTTA	23 GRF	1730.0	1925	150.0	3.8	2.2		
	228	HARS	45 C	1813.4	1813.7	.9	220	85		
	2800	OTTA	1 S	1916.0	1916.9	2.5	4.0	1.8		
	2800	OTTA	21 GRF	2010.0	2036	110.0	5.0	2.5		
	2800	OTTA	1 S	2030.2	2030.5	3.0	7.6	2.6		
	2800	OTTA	45 C	2105.0	2111	21.0	7.6	2.6		
	3750	TYKW	5 S	2250.0	2251.3	3.0	15	5		
	9400	TYKW	5 S	2250.0	2251.3	3.0	30	7		
	2800	OTTA	1 S	2250.5	2251.1	1.5	6.2	3.0		
	2800	TYKW	5 S	2251.0	2251.4	2.0	4	1		
	3750	TYKW	29 PBI	2253.0		25.0	2	1		
	9400	TYKW	29 PBI	2253.0		15.0	4	2		
22	260	ONDR	44 HS	0643.0E		437.0D	31			
	2800	TYKW	20 GRF	0105.0	0130	65.0	2	1		
	9400	TYKW	20 GRF	0110.0	0135	60.0	3	1.5		
	3750	TYKW	21 GRF	0110.0	0143	60.0	5	2		
	3750	TYKW	5 S	0132.0	0132.9	4.0	3	1		
	2800	TYKW	45 C	0217.0	0218.3	6.0	7	2		
	2800	TYKW	21 GRF	0217.0	0250	80.0	5	2.5		
	3750	TYKW	21 GRF	0217.0	0250	85.0	8	4		
	3750	TYKW	45 C	0218.0	0220.3	4.0	3	1		
	1000	TYKW	45 C	0218.0	0218.3	4.0	28	3		
	9400	TYKW	20 GRF	0220.0	0250	80.0	8	4		
	1000	TYKW	21 GRF	0230.0	0250	60.0	2.5	1		
	1000	TYKW	5 S	0242.3	0242.5	.5	2.5	.5		
	1000	TYKW	5 S	0243.3	0244.7	2.5	9	2.5		
	3750	TYKW	21 GRF	0410.0	0442	110.0	2	1		
	2800	TYKW	21 GRF	0410.0	0500	80.0	2	1		
	200	HIRA	7 C	0430.5	0432.4	3.0	740	67		0
	1000	TYKW	45 C	0431.0	0432.0	3.0	58	6		
	500	HIRA	7 C	0431.1	0432.3	2.0	100	20		
	950	GORK	4 S/F	0431.5	0433.0	2.4	23			
	650	GORK	46 C	0431.5	0432.0	2.5	13			
	650	GORK		0431.5	0432.9		30			
	200	GORK		0431.6	0433.3		70			
	200	GORK	46 C	0431.6	0432.0	2.3	60			
	100	GORK		0431.8	0433 U		100 D			
	100	GORK	46 C	0431.8	0432.0	2.6	100			
	9400	TYKW	45 C	0432.0	0432.4	2.0	6	2		
	2000	TYKW	45 C	0432.2	0432.7	1.2	3	1		
	228	HARS	45 C	0432.5	0432.6	1.1	180	50		
	100	HIRA	46 C	0432.6	0433.4	1.7	360	100		WL
	9100	GORK	1 S		0433.1	1.2	4	2		
	1000	TYKW	45 C	0500.5	0501.0	1.0	18	3		
	1000	TYKW	8 S	0515.4	0515.5	.2	9	3		
	3750	TYKW	5 S	0519.0	0520.3	5.8	6	2		
	1000	TYKW	5 S	0530.5	0530.7	.6	13	4		
	33	UPIC	4 S/F	0545.7	0545.8	.8				
	29	UPIC	3 S	0545.8	0546.1	.6				
	950	GORK	46 C	0631.0	0632.0	1.9	15			
	950	GORK		0631.8	0633.0		27			
	6100	KISV	4 S/F	0645.0	0646	2.0	13			
	9100	GORK	1 S	0645.9	0646.2	2.1	6.4	2.5		
	3750	TYKW	5 S	0711.0	0712	20.0	3	1		
	430	KRAK		0711.5	0812.7		25			
	430	KRAK	42 SER	0711.5	0713.5	105.0	50			
	113	POTS	4 S/F	0715.0	0715.8	.9	200	20		III
	200	GORK	41 F	0811.4	0813.2	4.7	60			
	200	GORK		0811.4	0815.6		50			
	930	BORD	41 F	0812.0	0812.8	1.0	24	3		
	100	GORK	41 F	0812.0	0813.0	3.5	4			
	100	GORK		0812.0	0815.6		120 D			
	650	GORK	4 S/F	0812.5	0813.0	.8	22	11		
	1000	TYKW	5 S	0812.5	0812.7	.5	14	5		

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DAY OF MONTH	FREQUENCY	STATION	TYPE	STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1}		INT	POLARIZATION OR REMARKS
				UT	UT	MINUTES	PEAK	MEAN		
22	810	KRAK	8 S	0812.5	0812.7	.5	40			
	950	GORK	1 S	0812.8	0813.1	.5	8	4		
	536	ONDR	8 S	0813.0	0813	.4	45			
	33	UPIC	4 S/F	0815.0	0816.1	1.6				
	29	UPIC	2 S/F	0815.5	0816.2	1.7				
	930	BORD	8 S	0910.0	0910	.1	14	2		
	430	KRAK	42 SER	0944.0E	1151.0	376.0D	150			
	6100	KISV	27 RP	1006.0	1008	5.0	12			
	9500	POTS	20 GRF	1006.0	1009.2	14.0	7.9			
	3000	POTS	20 GRF	1007.5	1011.8	6.0	5.8			
	536	ONDR	42 SER	1041.0	1045	181.0	59			
	810	KRAK	8 S	1041.5	1041.5	.1	8			
	430	KRAK	4 S/F	1041.5	1042.0	1.5	80	2		
	810	KRAK	8 S	1044.3	1044.3	.1	11			
	430	KRAK	2 S/F	1045.0	1045.5	1.0	19	2		
	2800	OTTA	240 R	1100.0	1135	35.0	10.6	5.3		
	9500	POTS	20 GRF	1104.0	1330	211.0D	39			
	3000	POTS	21 GRF	1105.0	1325	210.0D	28			
	930	BORD	41 F	1123.0	1124.4	1.4	14	2		
	234	POTS	4 S/F	1123.5	1124.2	1.1	625	50		III
	228	HARS	45 C	1123.7	1124.0	1.1	240	80		
	430	KRAK	4 S/F	1124.0	1124.7	2.3	120	7		
	810	KRAK	1 S	1124.0	1124.3	.5		4		
	113	POTS	4 S/F	1124.1	1124.6	1.0	204	50		III
	1470	POTS	23 GRF	1133.0U	1315.6	182.0D	30			
	810	KRAK	42 SER	1146.0	1151.0	51.0	80			
	7000	SAOP	45 C	1220.0	1222.5	1.4	17.0			27L
	6100	KISV		1220.0	1221.5		5			
	6100	KISV	45 C	1220.0	1222.5	5.0	10			
	2800	OTTA	1 S	1220.0	1222.0	6.0	4.2	1.8		
	5200	BERN	3	1221.0	1222.5	2.0	10.0			
	3000	POTS	40 F	1221.0	1222.5	3.5	14			
	2800	OTTA	21 GRF	1300.0	1327	330.0	27.4	13.7		
	6100	KISV	3 S	1301.0	1302	2.0	7			
	7000	SAOP	21 GRF	1301.2						
	7000	SAOP	21 GRF	1301.2		78.0	41.0			8L
	5200	BERN	21	1302.0	1315.7	120.0	21.0			
	2800	OTTA	40 F	1302.0	1305.7	20.0	12.8			
	8400	BERN	20	1302.0	1330.3	120.0U	28.0			
	11800	BERN	20	1302.0	1330.1	120.0U	27.0			
	7000	SAOP	1 S	1302.5E	1302.5		10.0			32L
	930	BORD	40 F	1305.0	1322.8	18.0	14	7		
	3000	POTS	40 F	1319.0	1320.0	2.5	30			
	2800	OTTA	1 S	1426.0	1428	6.0	3.4	1.7		
	2800	OTTA	20 GRF	1510.0	1517	50.0	5.6	2.0		
	7000	SAOP	20 GRF	1512.0			11.0			21L
	7000	SAOP	1 S	1628.7	1629.3		9.0			25L
	2800	OTTA	1 S	1641.5	1642	2.0	3.0	1.5		
	228	HARS	45 C	1803.8	1804.2	2.0	250	90		
	2800	OTTA	23 GRF	1855.0	2020	305.0	26.6	17.0		
	7000	SAOP	20 GRF	1857.5			25.0			12L
	2800	OTTA	45 C	1902.3	1903	3.0	8.6	4.3		
	9400	TYKW	20 GRF	2100.0E	2200	190.0D	17	8	D	
	1000	TYKW	20 GRF	2100.0E	2140	180.0D	4	2	D	
	2000	TYKW	20 GRF	2100.0E	2140	180.0D	11	6	D	
	3750	TYKW	20 GRF	2100.0E	2200	180.0D	14	8	D	
23	9400	TYKW	20 GRF	0020.0	0125	110.0	7	4		
	3750	TYKW	21 GRF	0020.0	0125	110.0	7	4.5		
	2000	TYKW	21 GRF	0020.0	0125	110.0	4	2.5		
	2695	PENT	240AR	0020.0	0050	30.0	6.0			
	2000	TYKW	5 S	0028.0	0029.2	3.0	3	1		
	3750	TYKW	5 S	0028.0	0029.1	5.0	2	.7		
	2695	PENT	1 S	0029.0	0029.1	1.0	4.8	2.4		
	100	HIRA	46 C	0122.6	0123.3	1.4	150	40		ML
	3750	TYKW	21 GRF	0211.0	0330	160.0	11	6		
	3750	TYKW	45 C	0212.0	0216.0	18.0	24	12		
	2000	TYKW	21 GRF	0212.0	0330	155.0	7	3.5		
	2000	TYKW	45 C	0212.0	0216.5	8.0	19	9		
	1000	TYKW	45 C	0213.0	0216.5	10.0	19	6		
	9400	TYKW	45 C	0213.0	0221.8	17.0	24	15		
	1000	TYKW	21 GRF	0213.0	0330	135.0	1	.5		
	9400	TYKW	21 GRF	0213.0	0330	160.0	8	4		
	2000	TYKW	29 PBI	0220.0		20.0	5	2		
	1000	TYKW	29 PBI	0223.0		17.0	2	1		
	3750	TYKW	29 PBI	0230.0		30.0	4	2		
	9400	TYKW	29 PBI	0230.0		30.0	10	4		
	9400	TYKW	5 S	0337.0	0338.8	3.0	42	13		
	3750	TYKW	45 C	0337.0	0338.8	5.0	32	10		
	1000	TYKW	45 C	0337.0	0339.4	5.0	388	55		
	2000	TYKW	45 C	0337.0	0338.8	5.0	57	19		
	650	GORK		0337.4	0341.6		70			
	650	GORK	46 C	0337.4	0340.3	5.9	50			
	950	GORK	46 C	0337.5	0340.2	4.5	92			
	950	GORK		0337.5	0340.4		43			

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DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1}		INT	POLARIZATION OR REMARKS
					UT	UT	MINUTES	PEAK	MEAN		
23	17000	NOBE	1	S	0337.6	0339.3	4.0	20			L
	500	HIRA	42	SER	0338.2	0339.4	5.0	4000			MR
	100	HIRA	46	C	0339.6	0339.8	1.3	390	100		WL
	9400	TYKW	29	PBI	0340.0		10.0	8	3.5		
	1000	TYKW	29	PBI	0342.0		10.0	4	2		
	2800	TYKW	30	PBI	0342.0		12.0	2.5	2.5		
	3750	TYKW	30	PBI	0342.0		12.0	3	3		
	3750	TYKW	5	S	0345.0	0346	4.0	2	1		
	2800	TYKW	45	C	0354.0	0354.4	6.0	14	5		
	9400	TYKW	45	C	0354.0	0354.4	16.0	36	11		
	3750	TYKW	45	C	0354.0	0354.5	6.0	36	15		
	500	HIRA	46	C	0354.0	0355.1	2.5	500	80		0
	650	GORK	4	S/F	0354.0	0355.0	3.0	17			
	17000	NOBE	27	RF	0354.1	0400.4	22.0	15			L
	1000	TYKW	45	C	0354.3	0355.0	6.0	6	2		
	2800	TYKW	29	PBI	0400.0		30.0	4.5	2		
	3750	TYKW	29	PBI	0400.0		30.0	6	4		
	2950	GORK	23	GRF	0409.0E	0416.1	166.0E	20			
	9400	TYKW	29	PBI	0410.0		20 .0	8	4		
	3750	TYKW	5	S	0434.0	0434.5	1.0	6	2		
	2800	TYKW	21	GRF	0500.0	0510.5	50.0	2	1		
	3750	TYKW	45	C	0502.0	0510.5	11.0	5	2		
	3750	TYKW	30	PBI	0513.0		40.0	2	1		
	1000	TYKW	42	SER	0519.5	0523.5	5.0	6	.5		
	3750	TYKW	5	S	0523.0	0523.4	1.0	23	8		
	9400	TYKW	5	S	0523.0	0523.4	1.0	14	4		
	2800	TYKW	5	S	0523.0	0523.5	1.0	11	3		
	6100	KISV	45	C	0523.0	0523.3	.5	26			
	8400	BERN	3		0523.0	0523.3	1.0	13.0			
	5200	BERN	13		0523.0	0523.3	1.0	17.0			
	650	GORK	4	S/F	0523.2	0523.7	.9	50	D		
	950	GORK	1	S	0523.4	0523.8	1.1	5	3		
	2950	GORK	1	S	0523.5	0523.9	1.2	14	7		
	3100	CRIM	1	S	0524.0	0524.5	1.5	26	9		
	9400	TYKW	29	PBI	0524.0		7.0	2	1		
	9100	GORK	1	S	0528.6	0528.8	2.1	14	3		
	204	IIHI	8	S	0605.0	0605.0	.8	830	550		
	260	ONDR	8	S	0605.0	0605	.5	222	D		
	1000	TYKW	5	S	0605.0	0605.3	1.0	5	1		
	234	POTS	4	S/F	0605.2	0605.5	.8	2600	500		III
	3100	CRIM	3	S	0612.0	0625.0	22.0	31	10		
	3750	TYKW	21	GRF	0613.0	0630	45.0	11	6		
	2800	TYKW	21	GRF	0614.0	0630	45.0	4	2.5		
	9400	TYKW	21	GRF	0614.0	0630	45.0	8	3		
	9400	TYKW	5	S	0614.0	0614.7	2.0	19	4		
	3750	TYKW	5	S	0614.0	0614.9	1.5	2	.5		
	6100	KISV	4	S/F	0614.0	0614.5	1.0	18			
	15000	KISV	4	S/F	0614.5	0614.5	.5	14			
	9100	GORK	23	GRF	0614.7	0624.4	51.3	12			
	9100	GORK	1	S	0614.9	0615.2	1.0	22	9		
	3750	TYKW	5	S	0618.0	0619	3.0	2	1		
	6100	KISV	4	S/F	0621.0	0624.5	5.0	44			
	3750	TYKW	45	C	0622.0	0624.6	8.0	56	10		
	2800	TYKW	45	C	0622.0	0624.4	7.0	26	4		
	9400	TYKW	45	C	0623.0	0624.7	4.0	15	4		
	5200	BERN	4		0623.0	0624.5	17.0	41.0			
	8400	BERN	4		0623.0	0624.5	17.0U	14.0			
	2650	DWIN	45	C	0623.0	0624	3.0	38	20		
	2950	GORK	46	C	0623.1	0624.2	4.5	37			
	2950	GORK			0623.1	0625.1		23			
	9100	GORK	1	S	0624.8	0625.3	1.1	14	6		
	536	ONDR	42	SER	0647.0	0647	51.0	26			
	3750	TYKW	5	S	0731.0	0731.8	2.0	3	1		
	6100	KISV	4	S/F	0731.3	0731.8	1.0	7			
	260	ONDR	2	S/F	0737.8	0738	.4	11			
	33	UPIC	45	C	0756.5	0757.1	3.0				
	29	UPIC	45	C	0756.6	0757.8	2.5				
	260	ONDR	8	S	0830.0	0830	.2	37			
	3000	POTS	22	GRF	0910.0	0918	28.0	19			
	1470	POTS	20	GRF	0910.0	0917.5	25.0	1.6			
	9500	POTS	20	GRF	0910.0	0915	25.0	16			
	3100	CRIM	20	GRF	0913.0	0928.0	25.0	14	5		
	3100	CRIM	25	R	0938.0	1048.0		10			
	2950	GORK	20	GRF	0946.7	1056.4	163.8	19			
	260	ONDR	4	S/F	1036.5	1036.5	.7	22			
	3100	CRIM	1	S	1045.0	1056.0	6.0	15	5		
	1470	POTS	31	ABS	1051.0	1056.4	24.0	6.5			
	3000	POTS	20	GRF	1054.0	1056	5.0	12			
	6100	KISV	27	RF	1054.0	1056	30.0	12			
	100	GORK	8	S	1138.0	1138.8	1.7	270	130		
	536	ONDR	42	SER	1201.0	1243.8	79.0	15			
	7000	SAOP	20	GRF	1222.0	1238.8	109.0	27.0			9L,2 PARTS
	930	BORD	8	S	1222.1	1222.2	.1	17	1		
	930	BORD	41	F	1225.3	1225.3	.2	12	1		
	5200	BERN	21		1234.0	1239.0	90.0	10.0			

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DAY OF MONTH	FREQUENCY	STATION	TYPE	STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1}		INT	POLARIZATION OR REMARKS
				UT	UT	MINUTES	PEAK	MEAN		
23	2800	OTTA	20 GRF	1235.0	1239	17.0	8.8	3.0		
	9400	HUAN	S	1235.3	1250.6	93.1	13.5	7.7		0
	6100	KISV	27 RF	1236.0	1238	7.0	15			
	930	BORO	8 S	1240.5	1240.5	.2	12	1		
	930	BORD	41 F	1402.0	1402.3	.4	14	1		
	2800	OTTA	260 FAL	1610.0	1650	40.0	-5.2	-2.8		
	7000	SAOP	40 F	1624.0		36.0D				
	2800	OTTA	22 GRF	1820.0	1955	240.0	14.0	7.0		
	3750	TYKW	5 S	2133.0	2134	6.0	3	1		
	2000	TYKW	20 GRF	2133.0	2143	50.0	2	1		
	3750	TYKW	21 GRF	2133.0	2143	50.0	4	2		
	9400	TYKW	20 GRF	2133.0	2134	40.0	5	2		
	2000	TYKW	21 GRF	2240.0	0035	240.0	11	6		
	3750	TYKW	21 GRF	2240.0	0055	240.0	16	8		
	2695	PENT	23 GRF	2240.0	0035	190.0D	14.8			
	3750	TYKW	5 S	2243.0	2246	7.0	3	1.5		
	9400	TYKW	21 GRF	2250.0	0100	230.0	13	7		
	2000	TYKW	5 S	2252.0	2255	10.0	2	1		
	3750	TYKW	5 S	2252.0	2255.5	10.0	6	2		
	3750	TYKW	45 C	2310.5	2311.0	5.5	16	3.5		
	9400	TYKW	45 C	2310.5	2312.1	5.5	16	6		
	3750	TYKW	29 PBI	2316.0		10.0	3	1.5		
	9400	TYKW	29 PBI	2316.0		10.0	5	2.5		
	1000	TYKW	21 GRF	2320.0	0030	200.0	5	2.5		
	3750	TYKW	45 C	2330.0	2336.3	18.0	30	14		
	1000	TYKW	45 C	2330.0	2341.9	18.0	22	4		
	2000	TYKW	45 C	2330.0	2336.5	18.0	25	8		
	9400	TYKW	45 C	2334.0	2342.2	14.0	66	23		
	2695	PENT	45 C	2334.3	2336.5	13.0	19.2	9.6		
	9400	TYKW	29 PBI	2348.0		27.0	18	8		
	3750	TYKW	30 PBI	2348.0		27.0	7	3.5		
	2000	TYKW	30 PBI	2348.0		27.0	3	1.5		
	1000	TYKW	29 PBI	2348.0	2341.9	27.0	3	1.5		
	3750	TYKW	5 S	2358.0	0000.0U	2.0D	18 D	4 D		
	2000	TYKW	5 S	2359.0	0000.2	2.0	6	1.5		
	2695	PENT	3 S	2359.0	2400	2.5	14.0	5.8		
24	2000	TYKW	5 S	0254.0	0257	25.0	2	1		
	2000	TYKW	21 GRF	0254.0	0440	300.0	5.5	2		
	3750	TYKW	21 GRF	0255.0	0440	290.0	14	6		
	3750	TYKW	5 S	0255.0	0257	25.0	6	3		
	9400	TYKW	20 GRF	0320.0	0440	190.0	6	3		
	35000	NAGO	20 GRF	0514.0	0523	27.0	12			
	260	ONDR	42 SER	0601.0	1138.2	339.0	222 D			
	234	POTS	8 S	0601.0	0601.1	.3	240	80		III
	33	UPIC	45 C	0601.0	0601.1	1.4				
	2000	TYKW	5 S	0601.0	0601.4	1.0	4	1.5		
	29	UPIC	45 C	0601.1	0601.7	1.3				
	3750	TYKW	5 S	0630.0	0636.4	15.0	22	10		
	6100	KISV	27 RF	0632.0	0636	65.0	25			
	5200	BERN	20	0632.0	0636.5	40.0	18.0			
	3200	BERN	20	0633.0	0636.5	45.0	.0			OPR
	3100	CRIM	3 S	0633.0	0637.0	30.0	25	8		
	2000	TYKW	45 C	0633.0	0636.4	12.0	13	7		
	9400	TYKW	20 GRF	0634.0	0638	70.0	6	3		
	2950	GORK	1 S	0634.0	0636.5	3.3	19			
	2650	DWIN	2 S/F	0634.0	0636	10.0	20	10		
	9100	GORK	22 GRF	0634.1	0636.5	40.0	9.4			
	2950	GORK	29 PBI	0637.3	0637.3	29.3	11.5			
	2000	TYKW	29 PBI	0645.0	0636.4	50.0	5	2.5		
	3750	TYKW	29 PBI	0645.0	0636.4	55.0	11	6		
	430	KRAK	8 S	0656.5	0656.7	.5	170			
	430	KRAK	42 SER	0826.0E	0910.0	274.0D	80			
	430	KRAK		0826.0E	1106.5		300			
	430	KRAK		0826.0E	1009.5		130			
	204	IZMI	5 S	0923.5	0923.6	.6	530	350		
	234	POTS	4 S/F	0923.6	0923.7	.6	220	50		III
	113	POTS	4 S/F	0937.6	0938.0	2.4	250	25		III
	234	POTS	8 S	0937.6	0937.7	.2	170	60		III
	204	IZMI	41 F	0937.7	0937.8	2.2	400			
	113	POTS	4 S/F	1009.4	1009.5	.8	4500	1200		III
	234	POTS	8 S	1009.4	1009.5	.7	480	150		III
	204	IZMI	8 S	1009.5	1009.5	.6	1150	700		
	810	KRAK	8 S	1009.5	1009.5	.1	10			
	2950	GORK	20 GRF	1021.6	1103.3	128.0E	12			
	8400	BERN	8	1030.0	1138.1	1.0	20.0			
	5200	BERN	20	1030.0	1048.1	90.0	8.0			
	11800	BERN	8	1030.0	1138.1	1.0	20.0			
	5200	BERN	20	1030.0	1138.1	90.0	8.0			
	430	KRAK		1100.0E	1254.0		80			
	430	KRAK		1100.0E	1138.0		80			
	204	IZMI	7 C	1132.0	1132.1	.8	800	500		
	113	POTS	42 SER	1132.1	1138.1	7.1	9100 D	600 D		III
	234	POTS	42 SER	1132.1	1138.0	7.4	336000 D	8000 D		III
	204	IZMI	48 C	1137.0	1137.2	1.5	4500	2500		

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DAY OF MONTH	FREQUENCY	STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY MEAN	INT	POLARIZATION OR REMARKS
24	536	ONDR	3 S	1137.2	1137.8	2.5	39	5.6		
	228	HARS	45 C	1137.2	1137.5	1.5	800	175		
	200	GORK	8 S	1137.4	1138.0	1.7	230 D			
	810	KRAK	7 C	1137.5	1138.0	2.0	28			
	7000	SAOP	3 S	1137.6	1138.1	1.0	19.0			0
	650	GORK	4 S/F	1137.6	1138.1	2.5	47			
	127	TORN	8 S	1137.8	1138.3	1.0	870	440		
	1470	POTS	8 S	1137.9	1138.0	.8	12			
	950	GORK	3 S	1137.9	1138.2	2.1	13	6		
	9500	POTS	8 S	1138.0	1138.2	1.0	19			
	6100	KISV	24 R	1138.0			22			
	6100	KISV	8 S	1138.0	1138	.3	14			
	15000	KISV	8 S	1138.0	1138.2	.3	11			
	3000	POTS	1 S	1138.0	1138.3	1.0	3.4			
	9400	HUAN	S	1238.8	1307.5	133.5	14.5	5.8		0
	2800	OTTA	21 GRF	1242.0	1340	155.0	18.0	7.0		
	5200	BERN	20	1251.0U	1259.2	120.0U	21.0			OPR
	3200	BERN	20	1251.0U	1258.7	120.0U	.0			OPR
	2650	DWIN	1 S	1256.0	1258	5.0	20	10		
	3000	POTS	4 S/F	1256.0	1257.5	3.0	20			
	9500	POTS	20 GRF	1257.0	1340	118.0D	9.7			
	2800	OTTA	3 S	1257.0	1259	4.0	12.2	5.0		
	3100	CRIM	3 S	1257.5	1258.5	9.0	22	7		
	1470	POTS	1 S	1257.5	1258	1.5	2.5			
	2800	OTTA	29 PBI	1301.0	1301	20.0	13.0	6.5		
	6100	KISV	27 RF	1315.0	1320	19.0	10			
	7000	SAOP	45 C	1329.6	1335.4	21.0	29.0			5L
	6100	KISV	4 S/F	1334.0	1337	6.0	23			
	7000	SAOP	1 S	1514.0	1514.5		9.0			0
	7000	SAOP	41 F	1514.0						2 BURSTS
	2800	OTTA	21 GRF	1520.0	1550	75.0	8.2	4.2		
	3200	BERN	20	1521.0	1522.7	20.0U	.0			OPR
	11000	BERN	3	1521.5	1522.8	10.0U	15.0			
	5200	BERN	3	1521.5	1522.8	10.0U	50.0			
	7000	SAOP	3 S	1521.8	1522.8	14.0	37.0			6R
	9400	HUAN	S	1521.8	1522.7	2.0	17.1	11.3		0
	2800	OTTA	3 S	1522.0	1523	3.0	29.4	14.7		
	2650	DWIN	1 S	1522.0	1523	3.0	25	15		
	9400	HUAN	29 PBI	1523.8	1523.8	51.7	10.5	6.4		0
	2800	OTTA	29 PBI	1525.0	1525	10.0	8.0	4.0		
	2800	OTTA	20 GRF	1640.0	1702	60.0	6.6	3.3		
	7000	SAOP	20 GRF	1649.0			11.0			0
	9400	HUAN	S	1929.0	2011.8	72.0	21.0	11.2		L
	2800	OTTA	21 GRF	1950.0	2006	75.0	8.6	2.9		
	7000	SAOP	45 C	1957.6	1958.4	5.0	71.0			5L
	9400	HUAN	S	1957.7	1959.0	2.0	64.4	39.0		L
	2800	OTTA	4 S/F	1958.0	1959	2.0	19.6	12.0		
	3750	TYKW	21 GRF	2130.0	2200	70.0	8	3		
	2800	OTTA	21 GRF	2135.0	2200	55.0	4.4	2.2		
	9400	TYKW	20 GRF	2140.0	2200	50.0	4	2		
	3750	TYKW	5 S	2145.0	2147.4	8.0	6	2		
	2800	OTTA	20 GRF	2145.0	2147.7	11.0	10.6	3.6		
	3750	TYKW	5 S	2220.0	2222	10.0	3	1		
	2000	TYKW	20 GRF	2244.0	2247	30.0	4	1.5		
	9400	TYKW	21 GRF	2250.0	2325	160.0	8	4		
	3750	TYKW	21 GRF	2250.0	2317	160.0	15	6		
	2000	TYKW	20 GRF	2250.0	2317	110.0	9	4		
	2695	PENT	20 GRF	2250.0	2317	100.0	11.8	3.9		
25	3750	TYKW	5 S	0046.0	0048.3	5.0	9	3		
	9400	TYKW	5 S	0047.0	0048.2	25.0	3	1		
	2000	TYKW	5 S	0047.0	0048.4	4.0	4	2.5		
	2695	PENT	1 S	0047.0	0048.2	6.0	6.6	3.0		
	2000	TYKW	29 PBI	0051.0		30.0	2	1		
	3750	TYKW	29 PBI	0051.0		30.0	3.5	2		
	3750	TYKW	5 S	0145.0	0148.5	6.0	14	5		
	9400	TYKW	5 S	0147.0	0148.9	35.0	4	1		
	2695	PENT		0147.0	0149	5.0D	9.4			
	2000	TYKW	5 S	0148.0	0148.9	2.0	4	1.5		
	2000	TYKW	29 PBI	0150.0		20.0	1.5	.7		
	3750	TYKW	29 PBI	0151.0		30.0	4	1.5		
	2000	TYKW	20 GRF	0255.0	0315	30.0	1.5	.5		
	3750	TYKW	20 GRF	0255.0	0315	30.0	3	1.5		
	3750	TYKW	21 GRF	0355.0	0358	60.0	5	2		
	9400	TYKW	20 GRF	0355.0	0358	60.0	3	1.5		
	2000	TYKW	5 S	0356.0	0358	10.0	2	1		
	3750	TYKW	5 S	0419.0	0420.3	20.0	5	1.5		
	9100	GORK	20 GRF	0527.0	0529.0	10.0	9			
	6100	KISV	1 S	0528.0	0529	5.0	7			
	9400	TYKW	5 S	0528.0	0529.3	4.0	6	1.5		
	3750	TYKW	5 S	0528.0	0529.3	3.0	1.5	.5		
	260	ONDR	42 SER	0600.0	0755.6	115.0	26			
	17000	NOBE	27 RF	0608.5	0610.7	8.5	25			R
	6100	KISV	27 RF	0636.0	0740	98.0	12			
	6100	KISV	1 S	0650.0	0650.5	3.0	7			

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DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1}		INT	POLARIZATION OR REMARKS
					UT	UT	MINUTES	PEAK	MEAN		
25	3750	TYKW	21	GRF	0650.0	0740	80.0	7	3		
	9400	TYKW	21	GRF	0650.0	0720	90.0	8	4		
	9400	TYKW	5	S	0650.5	0651.5	2.5	3	1.5		
	3750	TYKW	5	S	0651.0	0651.6	1.5	1.5	.5		
	2000	TYKW	21	GRF	0715.0	0740	50.0	3	1.5		
	2950	GORK	20	GRF	0715.0	0736.4	7.0	28			
	430	KRAK	42	SER	0745.0	0910.3	315.0D	80			
	2000	TYKW	8	S	0755.3	0755.3	.1	12	4		
	2950	GORK	23	GRF	0912.0	1109.0	228.0E	20			
	3100	CRIM	25	R	0916.0	1100.0	224.0D	27			
	3100	CRIM	1	S	0926.5	0927.5	5.0	5	2		
	6100	KISV	8	S	0944.0	0945	2.0	16			
	9100	GORK	22	GRF	0945.0	0947.1	12.6	9			
	810	KRAK	1	S	1034.7	1034.7	.2	4			
	2800	OTTA	20	GRF	1050.0	1110	80.0	5.2	2.6		
	260	ONDR	42	SER	1146.0	1417.2	153.0	37			
	7000	SAOP	45	C	1221.0	1238.2	50.0	65.0			0
	2650	DWIN	1	S	1235.0	1238	5.0	25	20		
	10715	DWIN	1	S	1235.0	1238	5.0	15	10		
	6100	KISV	4	S/F	1235.0	1238.3	7.0	49			
	9100	GORK	21	GRF	1235.4	1241.2	20.0E	20			
	3000	POTS	29	PBI	1236.0	1237.7	11.0	28			
	9500	POTS	29	PBI	1236.0	1238.0	91.0	34			
	8400	BERN	20		1236.0	1238.1	30.0D	33.0			
	11800	BERN	20		1236.0	1238.2	30.0D	23.0			
	5200	BERN	20		1236.0	1238.3	30.0D	36.0			
	2800	OTTA	3	S	1236.0	1237.6	6.0	31.6	21.0		
	3200	BERN	20		1236.0	1237.3	100.0	.0			OPR
	3100	CRIM	3	S	1236.5	1238.0	15.0	45 D			
	2950	GORK	3	S	1237.0	1237.8	4.9	25			
	15000	KISV	27	RF	1237.0	1240		10			
	9100	GORK	1	S	1237.0	1237.5	3.0	25	12		
	1470	POTS	1	S	1237.0	1238.5	3.0	4.9			
	15000	KISV	1	S	1238.0	1239	2.0	7			
	6100	KISV	29	PBI	1242.0	1242		18			
	2800	OTTA	29	PBI	1242.0	1242	60.0	11.4	5.7		
	3200	BERN	20		1547.0	1551.7	120.0	.0			OPR
	7000	SAOP	45	C	1547.4	1553.4	64.4	376.0			8L
	2800	OTTA	21	GRF	1548.0	1623	120.0	15.8	9.2		
	9400	HUAN		C	1549.3	1553.4	9.0	246.2	102.2		L
	2800	OTTA	46F	C	1549.5	1552	12.5	86.0	43.0		
	35000	BERN	4		1550.0U	1553.5	20.0U	80.0U			
	19600	BERN	4		1550.0	1553.4	20.0	100.0			
	5200	BERN	4		1550.0	1553.3	20.0	213.0			
	11800	BERN	4		1550.0	1553.3	20.0	160.0			
	8400	BERN	4		1550.0	1553.3	20.0	196.0			
	2650	DWIN	45	C	1550.0	1553	11.0	70	40		
	10715	DWIN	45	C	1550.0	1554	11.0	80	40		
	9400	HUAN	29	PBI	1558.3	1558.3	97.5	51.3	24.3		L
	2800	OTTA	29	PBI	1602.0	1602	12.0	12.0	5.0		
	2800	OTTA	20	GRF	1820.0	1845	55.0	3.2	1.6		
	2800	OTTA	1	S	1952.0	1953	2.0	6.4	2.2		
	9400	HUAN		S	1952.6	1953.2	1.7	14.7	8.2		0
	2000	TYKW	20	GRF	2215.0	2320	130.0	3	1.5		
	3750	TYKW	20	GRF	2220.0	2320	160.0	5	2.5		
	1000	TYKW	20	GRF	2220.0	2300	100.0	3	1.5		
	9400	TYKW	20	GRF	2310.0	2345	90.0	3	1.5		
26	200	GORK	44	NS	0252.0E		610.0D		5		
	536	ONDR	44	NS	0540.0E		513.0D	37			
	200	HIRA	44	NS	2350.0E	0835	600.0D	50	5		WR
	2695	PENT	4	S/F	0119.0	0119.3	3.0	12.0	4.0		
	2000	TYKW	5	S	0119.0	0119.9	2.0	8	3		
	3750	TYKW	5	S	0119.0	0119.4	2.0	12	4		
	3750	TYKW	29	PBI	0121.0		9.0	2	1		
	2000	TYKW	29	PBI	0121.0		5.0	2	1		
	3750	TYKW	21	GRF	0140.0	0240	140.0	5	2		
	2000	TYKW	20	GRF	0140.0	0225	140.0	4	2		
	9400	TYKW	20	GRF	0200.0	0300	120.0	4	2		
	1000	TYKW	45	C	0209.0E	0209.7	2.0D	31	7 D		
	3750	TYKW	21	GRF	0455.0	0510	30.0	3	1.5		
	3750	TYKW	5	S	0519.0	0521	5.0	2	.5		
	2000	TYKW	5	S	0520.0	0521.2	2.0	3	1		
	536	ONDR	42	SER	0654.3	0746.2	52.0	42			
	430	KRAK	42	SER	0741.5	0743.3	3.5	60			
	113	POTS	42	SER	0742.8	0742.8	2.2	280	9		III
	234	POTS	8	S	0744.9	0744.9	.1E	240	80		III
	810	KRAK	1	S	0745.5	0745.5	.1	6			
	930	BORD	8	S	0746.3	0746.7	.1	26	1		
	3100	CRIM	1	S	0752.0	0753.0	1.0	9	3		
	3750	TYKW	5	S	0752.0	0752.8	3.0	8	2		
	113	POTS	8	S	0824.4	0824.5	.3	700	250		III
	3100	CRIM	1	S	0917.0	0929.0	15.0	6	2		
	430	KRAK			0932.5	1134.7		140			
	430	KRAK			0932.5	1036.0		400 D			

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DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1}		INT	POLARIZATION OR REMARKS
					UT	UT	MINUTES	PEAK	MEAN		
26	430	KRAK	42	SER	0932.5	0951.5	200.0D	37			
	29	UPIC	42	SER	1019.5	1216.2	117.6				
	33	UPIC	42	SER	1019.6	1215.5	117.2				
	113	POTS	4	S/F	1051.7	1051.8	.1	500	125		III
	430	KRAK			1140.0	1221.3		110			
	113	POTS	4	S/F	1215.5	1215.6	.2	150	20		III
	930	BORD	46	C	1249.8	1250.3	3.8	147	6		
	7000	SAOP	45	C	1434.0	1439.4	24.0	26.0			14L
	5200	BERN	41		1437.6	1439.3	14.0	10.0			
	8400	BERN	41		1437.6	1439.3	14.0	12.0			
	3200	BERN	41		1437.6	1439.2	14.0	.0			OPR
	2800	OTTA	1	S	1438.0	1439.5	4.0	7.0	2.6		
	3000	POTS	3	S	1438.0	1439.4	4.0	12			
	1470	POTS	8	S	1438.5	1438.5	.2	5.1			
	9500	POTS	1	S	1438.9	1439.0	2.1	9.4			
	2800	OTTA	3	S	1651.0	1651.4	2.0	10.0	3.4		
	5200	BERN	3		1651.2	1652.5	13.0	10.0			OPR
	3200	BERN	3		1651.2	1652.5	13.0	.0			OPR
	2800	OTTA	21	GRF	1910.0	1955	110.0	3.6	2.0		
	7000	SAOP	3	S	1912.0	1913.0		13.0			28L
	2800	OTTA	1	S	1945.0	1946	2.5	5.6	2.8		
	1000	TYKW	21	GRF	2235.0	2245	95.0	3	1.5		
	3750	TYKW	21	GRF	2310.0	2350	80.0	5	2		
	9400	TYKW	21	GRF	2320.0	2351	60.0	5	2		
	1000	TYKW	21	GRF	2330.0	2350	35.0	3	1.5		
	2000	TYKW	21	GRF	2330.0	2350	60.0	2	1		
	9400	TYKW	45	C	2339.0	2345	9.0	8	1.5		
	1000	TYKW	45	C	2339.0	2340.5	10.0	9	2		
	3750	TYKW			2339.0	2345.2		14			
	3750	TYKW	45	C	2339.0	2340.4	10.0	16	5		
	2000	TYKW	45	C	2339.0	2340.5	10.0	17	4		
	2695	PENT	3	S	2339.0	2340.5	1.7	10.6	9.3		
	2695	PENT	30	PBI	2341.5	2341.5	13.0	5.6	2.8		
	2695	PENT	1	S	2344.0	2345.5	3.0	7.2	3.6		
27	200	GORK	44	NS	0300.0E		580.0D		35		
	29	UPIC	43	NS	0421.5	1615.9	729.4				
	33	UPIC	43	NS	0421.5	1615.1	728.8				
	100	GORK	43	NS	0436.0		264.0		5		
	234	POTS	44	NS	0529.0E	0804	455.0D	35			
	260	ONDR	44	NS	0544.0E		521.0D	158	9		
	536	ONDR	44	NS	0544.0E		356.0D	22	7		
	204	ISMI	44	NS	0600.0E		360.0D	50			
	430	KRAK	44	NS	0700.0E	0952.5	293.0D	180	23		
	1000	TYKW	45	C	0035.0	0112.2	140.0	43 U	3 U		
	1000	TYKW			0035.0	0043.6		15 U			
	9400	TYKW	5	S	0036.0	0037	10.0	11	3		
	3750	TYKW	45	C	0036.0	0037.7	10.0	17	3		
	2000	TYKW	5	S	0036.0	0038.0	4.0	6	1.5		
	2695	PENT	3	S	0036.0	0038	3.0	12.0	9.0		
	3750	TYKW	21	GRF	0050.0	0128	270.0	7	3		
	9400	TYKW	21	GRF	0051.0	0116.5	100.0	9	3		
	2000	TYKW	21	GRF	0111.0	0128	245.0	5	2.5		
	3750	TYKW	45	C	0111.5	0113.5	12.0	19	4		
	2000	TYKW	45	C	0111.5	0113.5	12.0	15	3		
	2695	PENT	4	S/F	0112.0	0113	2.0	18.6	9.3		
	2695	PENT	29	PBI	0114.0	0114	30.0D	5.6			
	100	GORK	8	S	0316.6	0317.0	.8	200			
	3750	TYKW	5	S	0319.0	0319.0	2.0	11	5		
	2950	GORK	1	S	0319.2	0320.6	2.4	5	2		
	3750	TYKW	29	PBI	0321.0		15.0	2	1		
	100	GORK			0344.0	0346.8		220 D			
	100	GORK	41	F	0344.0	0344.2	3.6	220 D			
	1000	TYKW	45	C	0403.0	0442.9	115.0	20	6		
	100	GORK			0414.5	0415.7		220 D			
	100	GORK	41	F	0414.5	0414.6	2.2	220 D			
	9400	TYKW	21	GRF	0420.0	0440	60.0	9	2		
	100	GORK	4	S/F	0422.2	0423.1	2.4	220			
	3750	TYKW	5	S	0433.0	0434.3	10.0	7	1.5		
	100	GORK			0439.4	0441.1		1100			
	100	GORK	46	C	0439.4	0439.6	2.2	220 D			
	100	GORK			0439.4	0440.6		220 D			
	650	GORK	22	GRF	0600.0	0735 U	325.0D	45			
	5200	BERN	4		0604.3	0607.5	18.0U	42.0			OPR
	6100	KISV	4	S/F	0605.0	0607.2	7.0	44			
	3750	TYKW	5	S	0605.0	0607.4	7.0	34	12		
	5730	IRKU	2	S/F	0605.5	0607.6	4.0	46	8		R
	2950	GORK	21	GRF	0605.9	0609.3	20.0	8.8	2.5		
	9100	GORK	21	GRF	0606.0	0608.8	14.8	10			
	11800	BERN	4		0606.0	0607.8	3.0	28.0			OPR
	3200	BERN	4		0606.0	0607.5	18.0U	.0			OPR
	8400	BERN	4		0606.0	0607.5	10.0	26.0			OPR
	15000	KISV	1	S	0607.0	0608	6.0	15			
	9400	TYKW	5	S	0607.0E	0607.5	3.0D	20	8 D		
	2950	GORK	1	S	0607.1	0607.7	1.7	14	6		

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DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	MEAN	INT	POLARIZATION OR REMARKS
27	9100	GORK	1	S	0607.3	0607.6	1.3	18	7		
	9400	TYKW	29	PBI	0610.0		12.0	5	2		
	3750	TYKW	29	PBI	0612.0		14.0	7	3		
	100	GORK	41	F	0617.1	0618.0	3.7	220 D			
	100	GORK			0617.1	0620.4		220 D			
	3750	TYKW	20	GRF	0630.0	0700	110.0	2	1		
	2000	TYKW	20	GRF	0630.0	0700	110.0	1	.5		
	113	POTS	42	SER	0636.1	0636.5	7.9	120	1 E		III
	100	GORK	8	S	0636.5	0636.8	.8	220 D			
	234	POTS	4	S/F	0639.6	0639.9	.6	200	50		
	234	POTS	41	F	0716.9	0717.6	.8	575	1		
	234	POTS	4	S/F	0853.4	0853.4	.1	380	60		
	100	GORK			0907.3	0910.5		240			
	100	GORK	41	F	0907.3	0907.7	4.6	200			
	113	POTS	4	S/F	1127.9	1128.2	.7	200	8		III
	7000	SAOP	1	S	1220.2	1221.3		8.0			29R
	6100	KISV	8	S	1221.0	1221.3	1.8	8			
	810	KRAK	1	S	1225.5	1225.7	.3	6			
	2800	OTTA	21	GRF	1230.0	1400	150.0	5.2	2.6		
	7000	SAOP	45	C	1345.0	1348.4		17.0			24R,CALIBRATION
	8400	BERN	22		1345.5	1349.5	11.0	11.0			OPR
	3200	BERN	22		1345.5	1349.5	11.0	.0			OPR
	5200	BERN	22		1345.5	1349.5	11.0	9.0			OPR
	6100	KISV	45	C	1346.0	1349.5		18			
	6100	KISV			1346.0	1348.5		15			
	9500	POTS	20	GRF	1347.5	1349.3	36.0	9.3			
	3000	POTS	3	S	1348.0	1349.4	4.0	11			
	2800	OTTA	2	S/F	1348.0	1349.2	3.0	6.4	3.0		
	1470	POTS	20	GRF	1348.5	1348.9	37.0	3.4			
	7000	SAOP	40	F	1433.0		49.0				
	5200	BERN	4		1609.0	1616.6	36.0	338.0			OPR
	7000	SAOP	45	C	1612.8	1616.8	3.6	638.0			2R,INVERTED POL
	2800	OTTA	3	S	1613.0	1616.5	9.0	325.0	76.0		
	9400	HUAN		C	1613.1	1616.0	5.4	835.9	361.2		L
	33	UPIC	45	C	1613.5	1615.1	8.3				
	10715	DWIN	45	C	1614.0		9.0	330 D			
	930	BORD	45	C	1614.0	1617.1	20.0	184	48		
	228	HARS	47	GB	1614.0	1615.0	10.0	300	65		
	2650	DWIN	45	C	1614.0	1616	9.0	300	280		
	29	UPIC	45	C	1614.1	1615.9	8.4				
	9400	HUAN	29	PBI	1618.5	1618.5	66.8	36.1	6.4		0
	2800	OTTA	29	PBI	1622.0	1622	30.0	9.6	2.6		
	2800	OTTA	20	GRF	1820.0	1940	135.0	3.4	2.4		
	3750	TYKW	20	GRF	2310.0	2326	60.0	3	1.5		
28	100	GORK	44	NS	0300.0E		54.0D		5		
	29	UPIC	43	NS	0745.4	1421.4	576.1				
	33	UPIC	43	NS	0745.5	0746.8	578.7				
	100	HIRA	46	C	0144.8	0146.9	2.9	16000	950		0
	9400	TYKW	45	C	0145.5	0146.6	2.5	50	7		
	1000	TYKW	45	C	0146.0	0147.2	3.0	4.5	1		
	3750	TYKW	5	S	0146.3	0146.6	1.0	6	1		
	2000	TYKW	5	S	0146.5	0147	1.0	1	.5		
	1000	TYKW	5	S	0212.7	0213.0	1.0	1	.3		
	1000	TYKW	5	S	0227.3	0227.5	1.0	3	.7		
	2930	VORO	3	S	0240.0	0248	15.0	149			
	5730	IRKU	45	C	0242.5	0246.4	9.0	220	73		L
	5730	IRKU			0242.5	0247.5		107			L
	5730	IRKU			0242.5	0249.2		35			L
	5730	IRKU			0242.5	0246.6		204			L
	3750	TYKW	45	C	0243.0	0246.6	7.0	135	40		
	2000	TYKW	5	S	0244.0	0246.7	7.0	64	20		
	9400	TYKW	45	C	0244.0	0246.1	6.0	147	40		
	200	HIRA	46	C	0244.3	0245.2	4.3	1000	185		
	228	HARS	45	C	0244.5	0246.0	3.0	400	100		
	500	HIRA	3	S	0244.6	0246.5	7.0	12	9		WR
	100	HIRA	46	C	0244.9	0245.1	6.0	1400	150		0
	17000	NOBE	3	S	0244.9	0246.1	4.0	66			L
	9400	TYKW	29	PBI	0250.0		20.0	8	4		
	3750	TYKW	30	PBI	0250.0		20.0	6	2		
	2000	TYKW	30	PBI	0251.0		19.0	2.5	1		
	228	HARS	45	C	0252.5	0253.0	1.5	100	35		
	3750	TYKW	5	S	0252.7	0252.9	.8	1	.3		
	2000	TYKW	45	C	0252.9	0253.1	1.8	5	1		
	1000	TYKW	45	C	0255.0	0256.7	14.0	24	6		
	2000	TYKW	45	C	0302.4	0302.7	.6	88	13		
	2000	TYKW	45	C	0318.0	0330.5	15.0	25	7		
	3750	TYKW	45	C	0318.0	0324.1	15.0	28	12		
	1000	TYKW	45	C	0318.0	0320.1	15.0	150	18		
	9400	TYKW	45	C	0318.0	0324.1	15.0	51	17		
	500	HIRA	46	C	0318.7	0322.3	13.0	200	30		WL
	950	GORK			0319.0	0324.5		33			
	17000	NOBE	20	GRF	0319.0	0324.0	41.0	19			0
	950	GORK	46	C	0319.0	0320.0	13.1	81			
	650	GORK	4	S/F	0320.0	0325.5	13.0	97			

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DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK		MEAN	INT	POLARIZATION OR REMARKS
28	5730	IRKU	2	S/F	0322.0	0324.0	4.0	70		30		0
	100	GORK	41	F	0325.3	0325.7	2.7	250	D			
	100	GORK			0325.3	0327.7		370				
	1000	TYKW	30	PBI	0333.0		70.0	1		.5		
	9400	TYKW	29	PBI	0333.0		80.0	14		6		
	2000	TYKW	29	PBI	0333.0		70.0	2		1		
	3750	TYKW	29	PBI	0333.0		80.0	6		2.5		
	1000	TYKW	5	S	0334.0	0334.1	.5	7		1.5		
	1000	TYKW	45	C	0503.3	0503.7	.5	10		4		
	3750	TYKW	21	GRF	0540.0	0620	70.0	5		2		
	3750	TYKW	5	S	0613.0	0613.9	2.0	3.5		1.5		
	430	KRAK			0729.0	0800.3		140				
	430	KRAK	42	SER	0729.0	0749.7	311.0	60				
	430	KRAK			0729.0	0941.3		60				
	430	KRAK			0729.0	0916.7		37				
	3750	TYKW	30	GRF	0744.0	0757	35.0	4		2		
	9400	TYKW	45	C	0745.5	0747.8	4.5	101		15		
	100	HIRA	41	F	0745.5	0749.8	8.7	720				ML
	100	GORK	41	F	0745.5	0745.9	8.8	240	D			
	100	GORK			0745.5	0749.8		240	D			
	100	GORK			0745.5	0753.5		240	D			
	113	POTS	4	S/F	0745.6	0749.9	4.4	250		10		III
	3750	TYKW	45	C	0746.0	0747.7	4.0	5		1.5		
	11800	BERN	3		0746.0	0748.1	3.0	64.0				OPR
	5200	BERN	3		0746.0	0747.8	2.5	11.0				OPR
	8400	BERN	3		0746.0	0748.0	3.0	63.0				OPR
	9100	GORK	3	S	0746.9	0747.7	1.9	110		30		
	10715	DWIN	3	S	0747.0	0748	3.0	50		20		
	9500	POTS	3	S	0747.0	0747.5	3.5	90				
	5730	IRKU	2	S/F	0747.0	0747.8	2.0	77		30		R
	6100	KISV	4	S/F	0747.0	0748	3.0	53				
	200	GORK	4	S/F	0747.2	0749.7	3.1	270				
	17000	NOBE	1	S	0747.4	0747.8	2.0	57				0
	35000	BERN	3		0747.5	0748.1	2.0	74.0				OPR
	19600	BERN	3		0747.5	0748.1	2.0	60.0				OPR
	228	HARS	45	C	0747.7	0748.0	1.0	65		16		
	15000	KISV	8	S	0748.0	0748.3	1.0	50				
	9100	GORK	29	PBI	0748.0	0748.8	12.9	13				
	228	HARS	45	C	0749.5	0749.7	.5	200		25		
	234	POTS	4	S/F	0749.7	0749.9	.3	150		30		III
	9400	TYKW	29	PBI	0750.0		30.0	3		1.5		
	810	KRAK	8	S	0920.5	0920.5	.1	24				
	430	KRAK			1040.0	1156.5		170				
	2800	OTTA	27A	RF	1105.0		235.0	3.4		3.0		
	2800	OTTA	24	R	1105.0	1130	25.0	3.4		1.7		
	2800	OTTA	24P	R	1130.0		175.0	3.4				
	2800	OTTA	20	GRF	1154.0	1156	14.0	3.4		1.7		
	930	BORD	41	F	1155.7	1155.8	.2	15		2		
	113	POTS	8	S	1157.8	1157.9	.1	100		30		III
	810	KRAK	8	S	1158.5	1158.5	.3	12				
	9400	HUAN		S	1256.4	1330.3	85.4	14.7		7.4		0
	5200	BERN	23		1308.0	1320.0	110.0	26.0				OPR
	3200	BERN	23		1313.0	1313.1	92.0	.0				OPR
	1800	OTTA	3	S	1313.3	1313.9	1.0	10.6		5.3		
	7000	SAOP	45	C	1313.4	1328.0	10.0	51.0				0
	2800	OTTA	1	S	1323.0	1324.5	3.0	2.6		1.3		
	228	HARS	45	C	1323.0	1323.1	1.5	65		20		
	113	POTS	42	SER	1323.5	1328.1	6.5	300		1		III
	3000	POTS	3	S	1327.0	1329.0		12				
	9500	POTS	3	S	1327.0	1329.0	4.5	22				
	6100	KISV	4	S/F	1327.0	1329	4.0	35				
	228	HARS	45	C	1327.0	1327.2	2.0	50		13		
	2800	OTTA	1	S	1327.2	1329	3.5	9.4		4.4		
	9400	HUAN		S	1327.6	1328.8	2.2	21.3		9.8		0
	1470	POTS	3	S	1328.0	1329.3	5.0	6.3				
	113	POTS	41	F	1419.2	1421.2	2.6	175		3		III/V
	9500	POTS	1	S	1420.5	1421.0	1.0	9.4				
	1470	POTS	1	S	1420.7	1420.9	1.0	1.6				
	2800	OTTA	26	FAL	1425.0	1500	35.0	-3.4		-2.0		
	2800	OTTA	21	GRF	1530.0	1640	150.0	4.2		2.1		
	9400	HUAN		S	1613.6	1639.8	46.0	8.2		3.4		0
	2800	OTTA	1	S	1728.3	1728.9	1.0	4.2		1.9		
	2800	OTTA	20	GRF	2130.0	2220	250.0	6.6		3.6		
	3750	TYKW	5	S	2259.0	2259.8	4.0	16		2		
	2000	TYKW	5	S	2259.0	2259.9	3.0	4		1		
29	2930	VORO	3	S	0230.0	0235	25.0	171	D			
	200	HIRA	46	C	0233.0	0235.2	8.2	1600		100		
	5730	IRKU	45	C	0233.0	0235	U 7.0	92	D	35		R
	5730	IRKU			0233.0	0234.0		45				R
	5730	IRKU			0233.0	0237.3		60				R
	35000	NAGO	5	S	0233.0	0235	3.0	91				
	100	HIRA	46	C	0233.2	0235.7	6.0	330		67		WL
	500	HIRA	45	C	0233.3	0236.6	12.0	70		25		WR
	1000	TYKW	45	C	0233.3	0235.5	12.7	122		40		

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DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY MEAN	INT	POLARIZATION OR REMARKS
29	2000	TYKW	45	C	0233.3	0235.2	10.7	159	40		
	9400	TYKW	45	C	0233.3	0234.6	5.7	320	75		
	3750	TYKW	45	C	0233.3	0234.9	7.7	188	45		
	220	HARS	45	C	0233.7	0235.0	3.5	330	65		
	17000	NOBE	45	C	0234.2	0234.6	5.0	174			0
	35000	NAGO	29	PBI	0237.0	0237	30.0	34			
	9400	TYKW	29	PBI	0239.0		21.0D	12	6 D		RAIN
	3750	TYKW	29	PBI	0241.0		19.0D	6	2 D		
	2000	TYKW	29	PBI	0244.0		20.0	4	1.5		
	1000	TYKW	29	PBI	0246.0		25.0	5	1.5		
	9400	TYKW	20	GRF	0410.0	0430	50.0D	4	2 D		RAIN
	3750	TYKW	20	GRF	0413.0	0430	50.0D	3	1.5D		
	2000	TYKW	21	GRF	0420.0	0424.5	50.0	4	1.5		
	810	KRAK	42	SER	0723.5	0725.5	2.0	23			
	930	BORD	41	F	0758.1	0758.1	.2	33	1		
	430	KRAK	8	S	0932.5	0932.5	.5	50			
	430	KRAK	7	C	1029.3	1029.5	7.3	18	3		
	6100	KISV	47	GB	1040.0	1042	4.0	693			
	19600	BERN	4		1041.0	1042.1	2.0	228.0			OPR
	10715	DWIN	45	C	1041.0	1042	5.0	310	100		
	11800	BERN	4		1041.0	1042.1	5.0	265.0			OPR
	3000	POTS	29	PBI	1041.0	1042.5	14.0	384			
	5200	BERN	47		1041.0	1042.3	11.0	612.0			OPR
	2650	DWIN	45	C	1041.0	1043	10.0	350	100		
	3200	BERN	47		1041.0	1042.3	11.0	.0			OPR
	8400	BERN	47		1041.0	1042.3U	7.0	300.0D			OPR
	29	UPIC	4	S/F	1041.1	1041.9	2.1				
	33	UPIC	4	S/F	1041.2	1041.5	2.1				
	930	BORD	45	C	1041.5	1042.4	18.5	131	48		
	15000	KISV	47	GB	1041.5	1042.5	5.0	531			
	127	TORN			1041.5	1051.5		300			
	204	IZMI	48	C	1041.5	1041.5	2.5	6875	3500		
	127	TORN	49	GB	1041.5	1042	14.0	3800			
	220	HARS	45	C	1041.5	1041.8	2.5	1000	165		
	234	POTS	4	S/F	1041.5	1041.8	2.1	17000	4000		III/V
	430	KRAK			1041.5	1048.0		60			
	430	KRAK	45	C	1041.5	1041.7	16.5	90	19		
	810	KRAK	5	S	1041.5	1042.0	12.7	100	30		
	113	POTS	42	SER	1041.6	1041.8	12.0	6300 D	200 D		III/V
	9500	POTS	3	S	1042.0E	1044.2	4.5D	13			
	1470	POTS	29	PBI	1042.0E	1042.8	13.0D	180			
	2800	OTTA			1044.0E	1044.3	8.0D	73.0			
	29	UPIC	2	S/F	1046.1	1047.2	3.0				
	33	UPIC	2	S/F	1046.4	1047.1	2.7				
	2800	OTTA	29	PBI	1052.0	1052	90.0	4.4	2.2		
	430	KRAK	42	SER	1123.0	1123.3	6.7	11			
	430	KRAK	42	SER	1225.7	1253.7	28.5	10			
	810	KRAK	8	S	1249.0	1249.5	.5	60			
	220	HARS	45	C	1636.2	1636.2	.5	500	35		
	2800	OTTA	20	GRF	1701.0	1703	40.0	3.0	1.6		
	930	BORD	42	SER	1802.0	1802.5	3.0	277	3		
	7000	SAOP	45	C	1802.0	1823.3		112.0			20R
	2800	OTTA	46F	C	1802.3	1802.6	6.0	21.0	6.2		
	930	BORD	46	C	1812.6	1813.7	1.2	73	3		
	228	HARS	45	C	1822.0	1823.5	2.5	600	100		
	2650	DWIN	45	C	1822.0	1824	8.0	170	50		
	9400	HUAN		S	1822.2	1823.3	2.2	46.2	23.1		R
	930	BORD	3	S	1822.4	1823.6	9.6	59	28		
	2800	OTTA	46F	C	1822.5	1823.4	6.5	198.0	67.0		
	9400	HUAN	29	PBI	1824.4	1824.4	25.2	6.3	3.5		0
	2800	OTTA	29	PBI	1829.0	1829	35.0	8.6	2.2		
	2800	OTTA	1	S	1934.0	1934.2	3.0	8.6	2.2		
	2800	OTTA	1	S	1943.5	1944	1.0	2.2	1.1		
	2800	OTTA	1	S	2021.8	2022	1.0	5.6	2.8		
	2800	OTTA	1	S	2026.1	2027	3.0	9.4	3.1		
	2800	OTTA	1	S	2056.8	2057.2	1.3	5.2	2.6		
	2800	OTTA	3	S	2145.5	2146	3.0	21.6	5.4		
	2800	OTTA	1	S	2159.4	2159.5	1.0	8.6	4.3		
	2800	OTTA	2	S/F	2217.0	2220.2	4.0	8.6	4.0		
	2800	OTTA	8	S	2238.8	2238.9	.5	2.6	1.3		
	3750	TYKW	21	GRF	2310.0E	2340	70.0D	4	2 D		
	9400	TYKW	20	GRF	2310.0E	2340	80.0D	10	6 D		
	1000	TYKW			2330.4	2335.4		34			
	1000	TYKW	42	SER	2330.4	2331.3	8.5	48	2		
	3750	TYKW	45	C	2330.5	2330.9	2.5	3	1		
	2000	TYKW	45	C	2330.5	2331.0	3.5	6	2		
	2695	PENT	1	S	2330.5	2330.9	3.0	5.0	2.2		
	2695	PENT	1	S	2335.0	2335.6	2.0	5.8	2.0		
	3750	TYKW	5	S	2335.0	2335.8	2.5	6	1.5		
	2000	TYKW	5	S	2335.0	2335.8	2.0	7	2.5		
	35000	NAGO	20	GRF	2342.0	2354	32.0	7			
30	1000	TYKW	45	C	0027.0	0027.3	.5	12	2.5		
	3750	TYKW	21	GRF	0050.0	0300	300.0	11	6		
	2000	TYKW	21	GRF	0050.0	0300	300.0	7			

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

JUNE 1980

DAY OF MONTH	FREQUENCY	STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY MEAN	INT	POLARIZATION OR REMARKS
30	1000	TYKW	45 C	0050.0	0149.3	70.0	18	5		
	2800	OTTA	20 GRF	0055.0	0150	60.00	10.2			
	2000	TYKW	20 GRF	0130.0	0148	50.0	4	2		
	9400	TYKW	21 GRF	0138.0	0300	260.0	4	2		
	1000	TYKW	30 PBI	0200.0		230.0	5	2		
	3750	TYKW	31 AOS	0309.0	0320	95.0	-6	-3		
	9400	TYKW	31 AOS	0321.0	0327	83.0	-4	-2		
	2000	TYKW	5 S	0420.0	0421.0	2.5	3	1		
	1000	TYKW	45 C	0420.3	0420.8	1.0	7	1.5		
	1000	TYKW	45 C	0423.5	0424.1	1.0	57	10		
	2000	TYKW	45 C	0423.5	0423.7	1.5	1.5	.3		
	1000	TYKW	45 C	0425.5	0425.7	1.0	2	.5		
	2000	TYKW	45 C	0425.7	0425.9	.7	4	1		
	1000	TYKW	5 S	0437.0	0437.4	1.5	1.5	.5		
	930	BORD	8 S	0613.1	0613.1	.1	25	1		
	260	ONDR	42 SER	0700.0	0755	90.0	8			
	810	KRAK	8 S	0711.5	0711.5	.1	20			
	5200	BERN	3	0720.0	0722.2	16.0	42.0			
	3200	BERN	1	0720.0	0722.2	16.0	.0			OPR
	3000	POTS	3 S	0721.5	0722.3	4.0	23			
	2950	GORK	1 S	0721.8	0722.5	.9	16	8		
	2000	TYKW	5 S	0721.8	0722.3	2.2	15	3.5		
	3750	TYKW	45 C	0721.8	0722.1	2.2	26	6		
	9400	TYKW	5 S	0721.8	0722.2	2.2	9	2.5		
	6100	KISV	4 S/F	0722.0	0722.7	2.0	11			
	2650	DWIN	45 C	0722.0	0723	1.0	80	40		
	9500	POTS	1 S	0722.0	0722.4	.7	4.8			
	2950	GORK	29 PBI	0722.7	0722.7	5.7	76			
	3750	TYKW	29 PBI	0724.0		30.0	2	1		
	2000	TYKW	29 PBI	0724.0		15.0	1	.5		
	9400	TYKW	29 PBI	0724.0		30.0	2	1		
	430	KRAK	41 F	0735.5	0739.3	11.5	9			
	930	BORD	41 F	0748.8	0748.9	.2	18	1		
	9100	GORK	1 S	0751.9	0752.4	5.6	10	2.4		
	430	KRAK	3 S	0823.7	0824.8	1.0	39			
	810	KRAK	8 S	0908.0	0908.9	1.8	200			
	930	BORD	41 F	0908.1	0908.3	1.0	162	2		
	810	KRAK	8 S	0953.3	0953.3	.1	18			
	430	KRAK	4 S/F	1007.5	1008.8	2.8	35	4		
	810	KRAK	1 S	1038.5	1008.7	1.0	7	2		
	930	BORD	8 S	1015.4	1015.4	.2	14	1		
	430	KRAK	7 C	1032.3	1032.5	2.5	10	4		
	930	BORD	41 F	1133.4	1133.4	.3	79	1		
	260	ONDR	42 SER	1200.0	1231.3	135.0	15			
	430	KRAK	42 SER	1206.5	1231.0	39.0	60			
	536	ONDR	42 SER	1227.0	1339	76.0	43			
	5200	BERN	1	1233.1	1235.1	7.0	5.0			
	2800	OTTA	21 GRF	1325.0	1340	70.0	2.8	1.4		
	7000	SAOP	45 C	1329.0	1338.8	1.7	47.0			12R
	930	BORD	42 SER	1332.8	1339.6	7.0	199	2		
	2650	DWIN	45 C	1334.0	1336	4.0	70	20		
	11800	BERN	46	1335.0	1338.8	20.0	38.0			
	6100	KISV		1335.0	1337		18			
	5200	BERN	46	1335.0	1338.8	20.0	25.0			
	6100	KISV	46 C	1335.0	1338.7	5.0	26			
	800	ONDR	45 C	1335.0	1338.7	5.0	45	2		
	6100	KISV		1335.0	1336.7		16			
	8400	BERN	46	1335.0	1338.8	20.0	38.0			
	2800	OTTA	46F C	1335.0	1339	4.5	64.6	10.2		
	3200	BERN	41	1335.0	1338.8	20.0	.0			
	930	BORD	41 F	1421.9	1422	.2	28	2		
	930	BORD	41 F	1431.8	1431.9	.3	32	2		
	930	BORD	41 F	1518.0	1518.1	.2	17	1		
	2800	OTTA	21 GRF	1522.0	1535	85.0	4.6	2.3		
	3200	BERN	4	1522.5	1528.3	33.0	.0			OPR
	8400	BERN	4	1522.5	1528.3	33.0	37.0			
	5200	BERN	4	1522.5	1528.3	33.0	44.0			
	11800	BERN	4	1522.5	1528.3	33.0	30.0			
	7000	SAOP	45 C	1523.0	1528.5	21.0	63.0			7R,INVERTED POL
	2800	OTTA	8 S	1524.0	1524.1	.3	4.6			
	930	BORD	42 SER	1525.0	1530.5	8.0	120	2		
	2800	OTTA	8 S	1526.5	1526.6	.5	3.8			
	2800	OTTA	4 S/F	1528.0	1528.5	2.5	135.0	41.0		
	2650	DWIN	45 C	1528.0	1528	2.0	120	80		
	2800	OTTA	1 S	1531.0	1531.7	3.0	9.6	4.6		
	930	BORD	41 F	1604.4	1604.9	.8	154	2		
	7000	SAOP	40 F	1651.0		30.0				
	2800	OTTA	260 FAL	1700.0	1730	30.0	-3.8	-1.9		
	2800	OTTA	21 GRF	1750.0	1840	175.0	6.2	3.6		
	7000	SAOP	45 C	1819.0	1825.2	30.0	32.0			8
	2800	OTTA	46F C	1823.0	1825	6.0	7.6	3.8		
	930	BORD	46 C	1823.4	1827.8	5.6	18	4		
	3750	TYKW	21 GRF	2120.0	2200	60.0	3	1.5		
	3750	TYKW	45 C	2125.0	2134.0	15.0	17	3		
	2000	TYKW	45 C	2132.0	2135	5.0	3	1.5		

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

JUNE 1980

DAY OF MONTH	FREQUENCY	STATION	TYPE		STARTING TIME	TIME OF MAXIMUM	DURATION	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1}		INT	POLARIZATION OR REMARKS
					UT	UT	MINUTES	PEAK	MEAN		
30	9400	TYKW	5	S	2132.0	2133.7	7.0	12	4		
	2800	OTTA	1	S	2132.0	2134	5.0	6.0	3.0		
	2800	OTTA	20	GRF	2240.0	2250	40.0	3.6	1.8		
	3750	TYKW	20	GRF	2240.0	2248	50.0	3	1.5		
	2800	TYKW	20	GRF	2240.0	2248	40.0	1	.5		
	9400	TYKW	20	GRF	2243.0	2248	40.0	4	2		
	1000	TYKW	45	C	2336.5	2337.6	5.5	2.5	.7		
	2000	TYKW	45	C	2337.0	2337.6	4.0	4.5	1.5		
	2695	PENT	1	S	2337.0	2337.3	1.5	2.0	1.4		

Reports are received routinely from the following observatories:

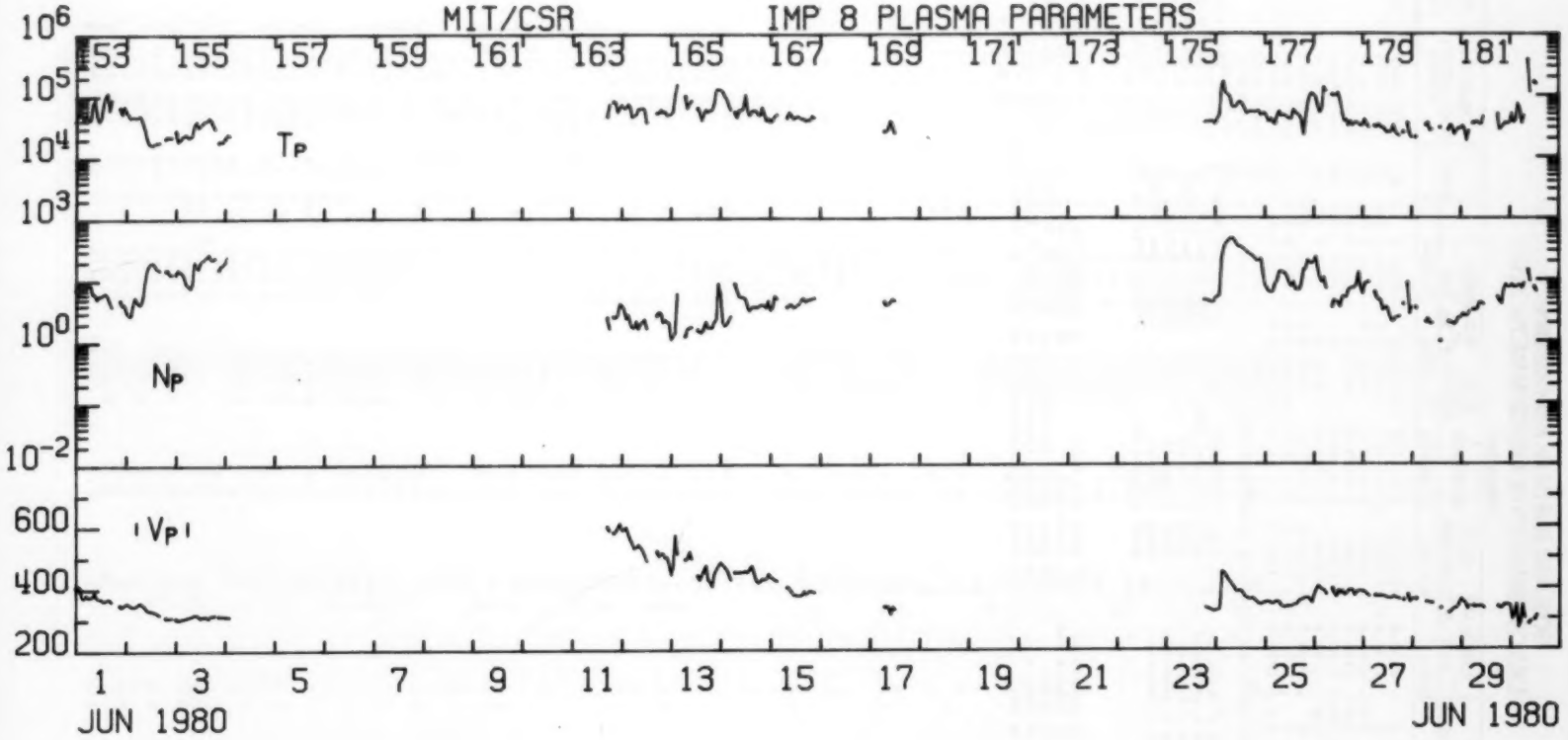
ARCE = Arcetri
BERN = Berne
BORD = Bordeaux
CRIM = Crimea
DWIN = Dwingeloo
GORK = Gorky
HARS = Harestua
HIRA = Hiraiso
HUAN = Huancayo
IRKU = Irkutsk
IZMI = IZMIRAN
KISV = Kislovodsk
KRAK = Krakow
MANI = Manila
NAGO = Nagoya
NOBE = Nobeyama
ONDR = Ondrejov
OTTA = Ottawa
PENT = Penticton
POTS = Potsdam
SOAP = Sao Paulo
SGMR = Sagamore Hill
SYDN = Sydney
TORN = Torun
TYKW = Toyokawa
TRST = Trieste
UPIC = Upice
VORO = Voroshilov

Explanation of Type Code:

1 Simple 1
2 Simple 1F
3 Simple 2
4 Simple 2F
5 Simple
6 Minor
7 Minor +
8 Spike
20 Simple 3
21 Simple 3A
22 Simple 3F
23 Simple 3AF
24 Rise
25 Rise A
26 Fall
27 Rise and Fall
28 Precursor
29 Post Burst Increase
30 Post Burst Increase A
31 Post Burst Decrease
32 Absorption
40 Fluctuation
41 Group of Bursts
42 Series of Bursts
43 Onset of Noise Storm
44 Noise Storm in Progress
45 Complex
46 Complex F
47 Great Burst
48 Major
49 Major +

IMP 8 SOLAR WIND PLASMA

JUNE 1980

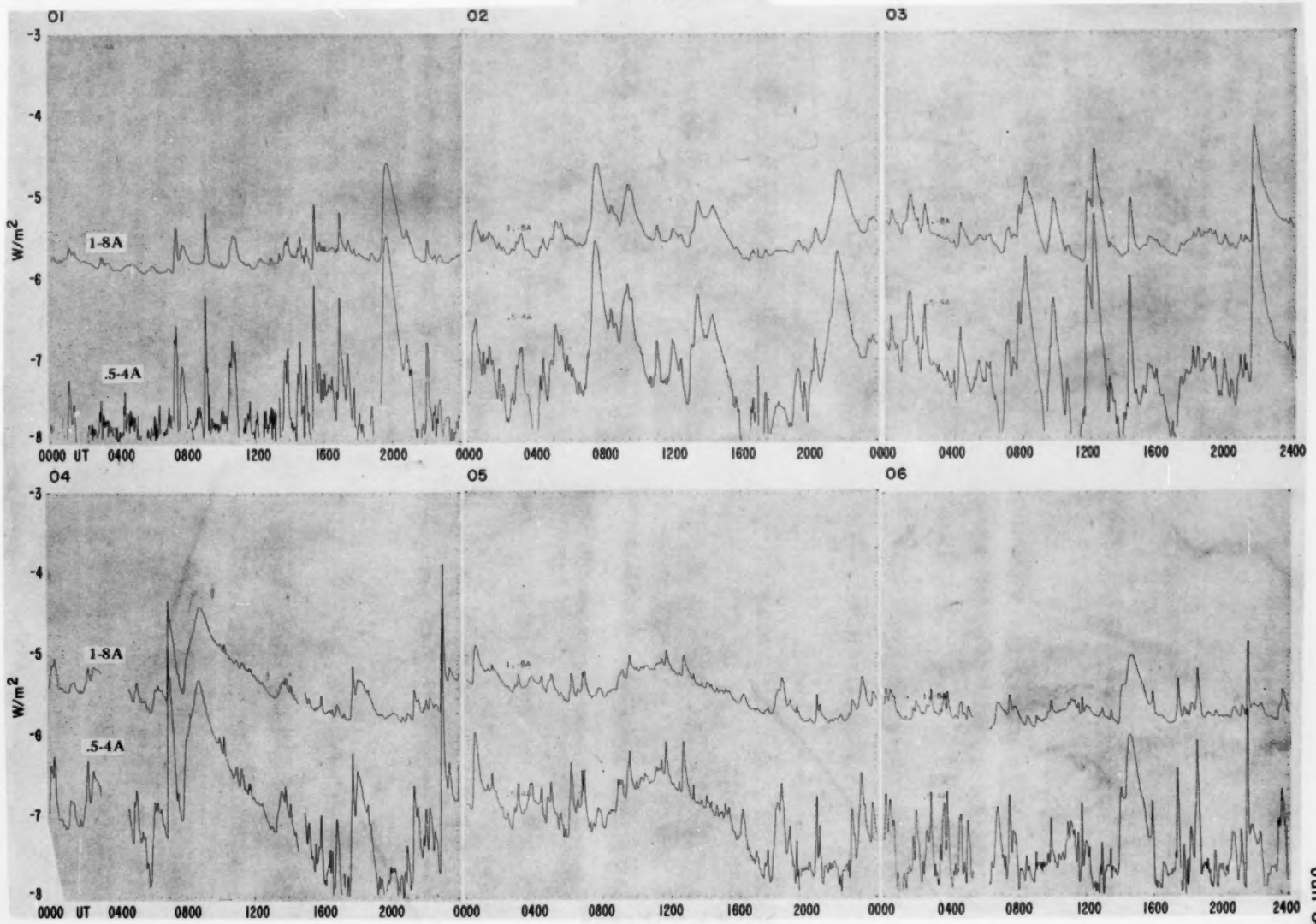


SMS-GOES X-RAYS

JUNE 1980

SMS-GOES X-RAYS

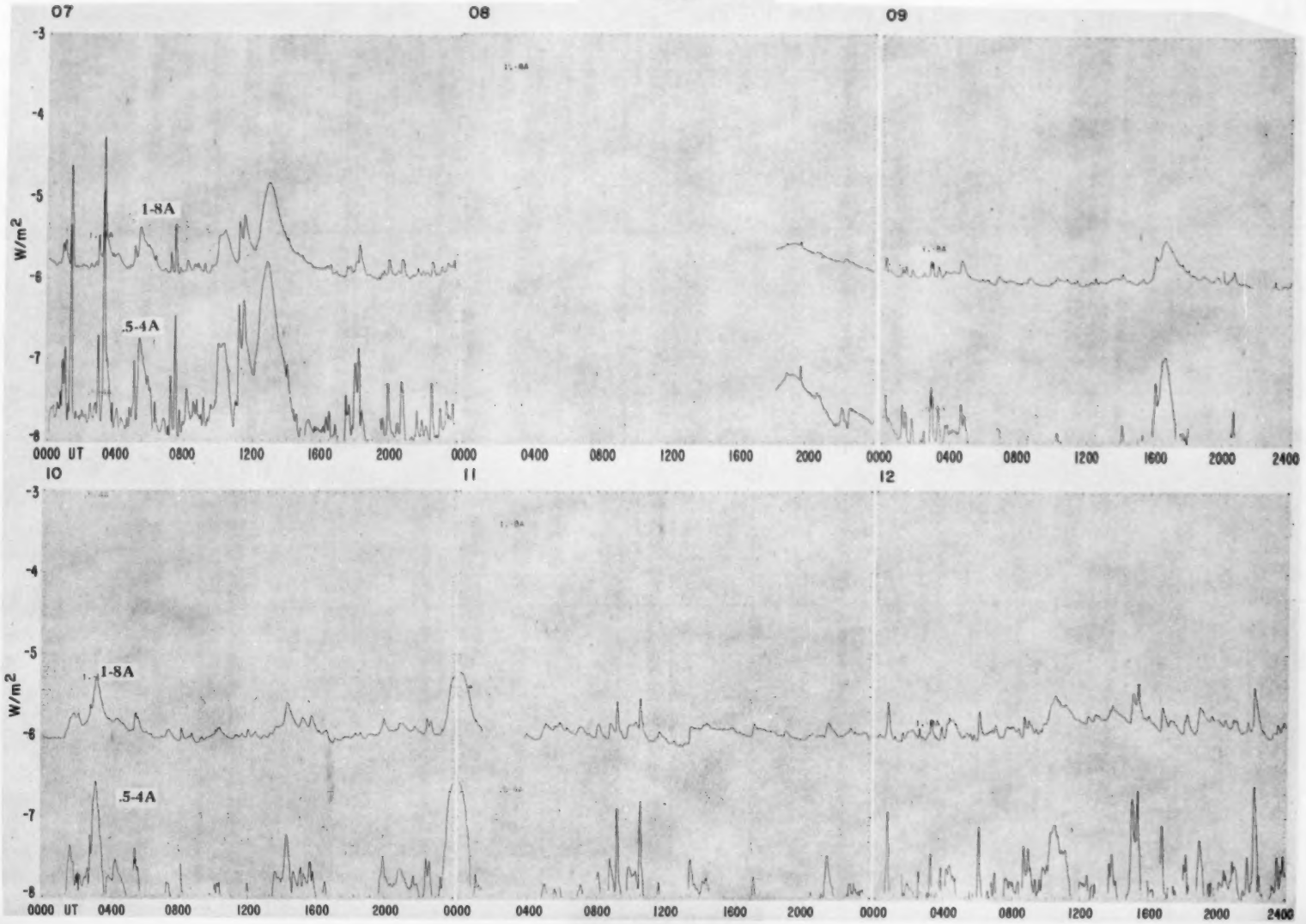
JUNE 1980



41
Jun 80

SMS-GOES X-RAYS

JUNE 1980



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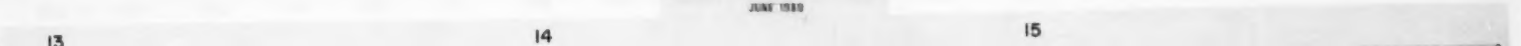
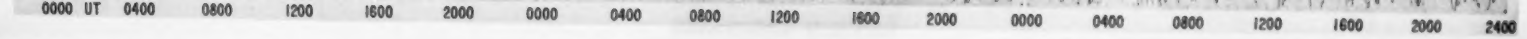
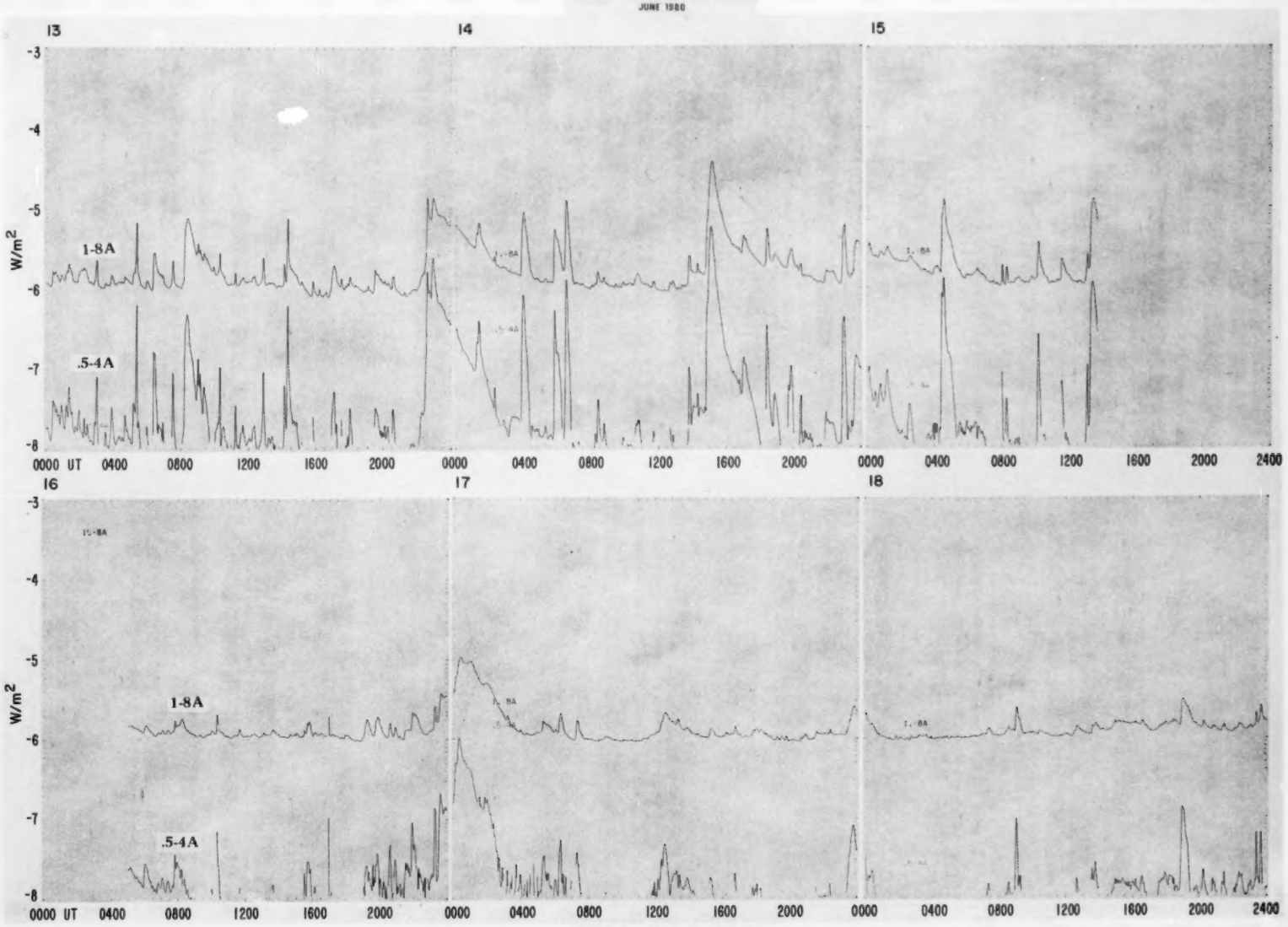
JUNE 1980





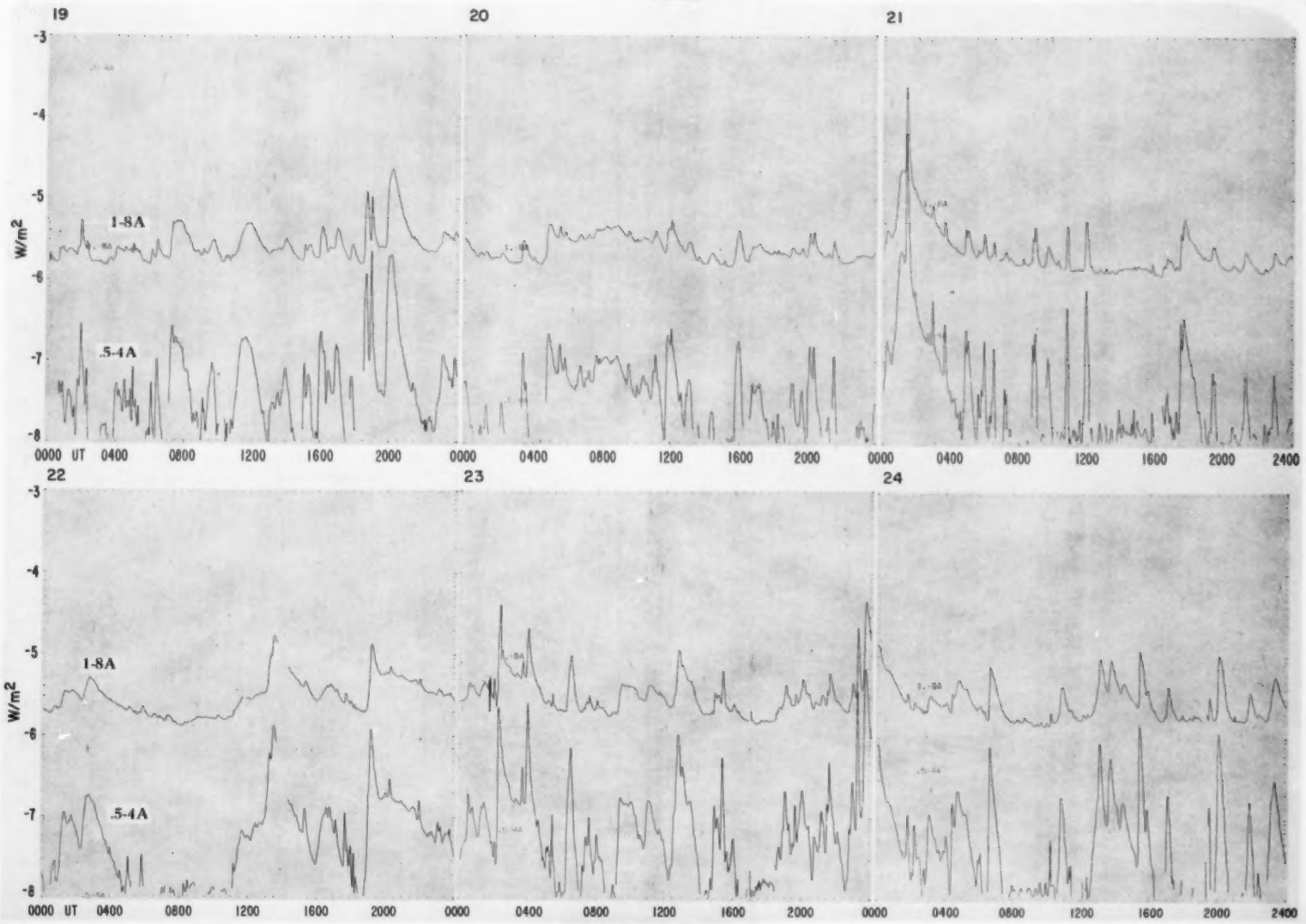
SMS-GOES X-RAYS

JUNE 1980



SMS-GOES X-RAYS

JUNE 1980



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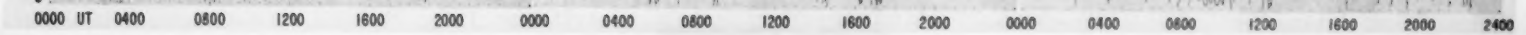
JUNE 1980



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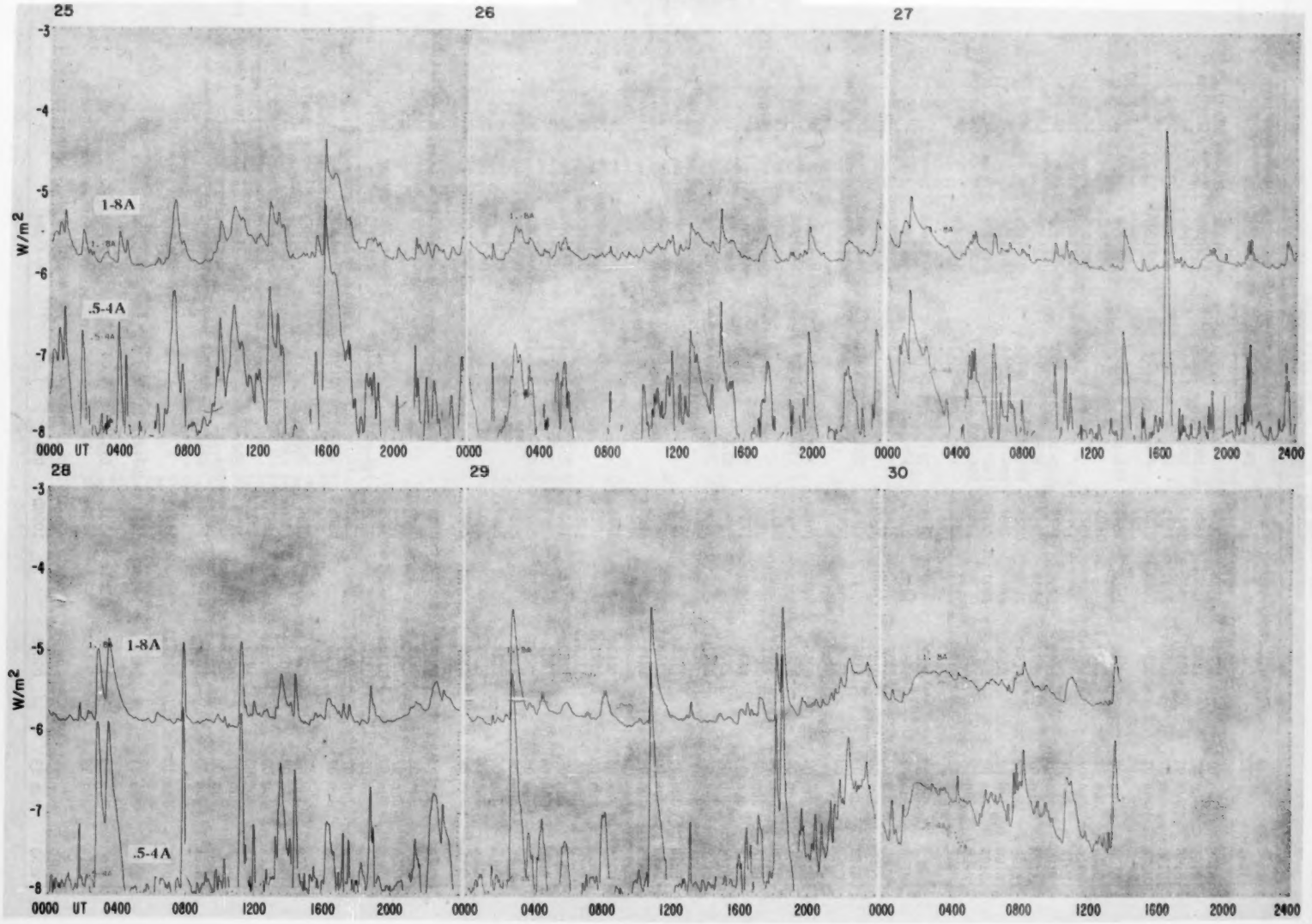

MASS EJECTIONS FROM THE SUN

JUNE 1980

Station	Date 1980	Observed Start	Max	End	Location RA°	R/Ro	Wavelength	Type of Event
BIGB	Jun 01	1529	1538	1554	262-267	1.0	H-alpha	SP
BIGB	Jun 01	1540	1548	1608	106	1.0	H-alpha	SP
BIGB	Jun 01	1840	1842	1927	105	1.0	H-alpha	SP
BIGB	Jun 01	2005	2033	2131	105	1.0	H-alpha	SP
BIGB	Jun 01	2034	2046	2127	263	1.0	H-alpha	SP
BIGB	Jun 02	1434	1522	1647	104-107	0.982	H-alpha	SP
DWIN	Jun 02	1600.3		1601.1			Decimeter	IV
DWIN	Jun 02	1626.6		1627.6			Decimeter	IV
DWIN	Jun 02	1724.0		1725.1			Decimeter	IV
BIGB	Jun 02	1746	1754	1824	110-112	0.991	H-alpha	SP
BIGB	Jun 02	2031	2038	2053	107	0.964	H-alpha	SP
BIGB	Jun 02	2134	2148	2224	104-107	0.964	H-alpha	SP
BIGB	Jun 02	2226	2234	2357	104-107	0.964	H-alpha	SP
BIGB	Jun 02	2320	2331	2352	112-116	1.0	H-alpha	SP
HALE	Jun 02	2322E		2346D	104-130	1.0-1.17	5303A	E
HALE	Jun 02	2326E	2334	2351D	115	1.0-1.13	H-alpha	SP
HALE	Jun 03	0051		0135D	324	1.0-1.20	H-alpha	Q
BIGB	Jun 03	1552	1642	2027	106	1.0	H-alpha	SP
CULG	Jun 03	2132		2152			Decimeter	IV Pulsations
CULG	Jun 03	2133		2153			Meter	II
BIGB	Jun 03	2136	2147	2151	108	0.911	H-alpha	SP
CULG	Jun 03	2146		2248			Meter	IV
BIGB	Jun 04	0035	0041	0058	280	1.0	H-alpha	SP
MITK	Jun 04	0340		0414	114	0.97	H-alpha	S
BLEN	Jun 04	0822.0		0931.0			Decimeter; meter	IV
DWIN	Jun 04	0829.1		0930			Decimeter	IV Fast drift
BIGB	Jun 04	1439	1456	1736	111	1.0	H-alpha	A
MITK	Jun 04	2303		2351	252	0.94	H-alpha	S
BIGB	Jun 04	2307E	2314	2358	258	0.919	H-alpha	A
DWIN	Jun 05	1110		1120			Decimeter	IV
DWIN	Jun 05	1156.8		1215			Decimeter	IV Fast drift; fiber
DWIN	Jun 05	1315		1429			Decimeter	IV Fiber bursts
DWIN	Jun 06	1411.0		1435			Decimeter	IV
DWIN	Jun 06	1721.0		1723.6			Decimeter	IV
BLEN	Jun 06	1728.9		1755.0			Decimeter	IV
HALE	Jun 06	1750E	1805	1847D	257	1.0-1.17	H-alpha	S
BIGB	Jun 06	1901	1909	1953	257	1.0	H-alpha	SP
HALE	Jun 06	1904E	1940	2006	257	1.0-1.19	H-alpha	S
CULG	Jun 06	2134		2150			Decimeter	IV
CULG	Jun 06	2134		2142.5			Meter	II
CULG	Jun 06	2150		2202			Decimeter	IV
CULG	Jun 06	2202		2400			Decimeter	IV
CULG	Jun 07	0117		0144			Decimeter	IV Pulsations
CULG	Jun 07	0119		0138			Decimeter; meter	II
CULG	Jun 07	0313		0332			Meter	II
CULG	Jun 07	0314		0325			Meter; dekameter	IV
NRLC	Jun 07	0314		0509	255-280	5.0-6.5	White light	Multiple prongs
MITK	Jun 07	0322		0340D	278	1.0	H-alpha	A
MITK	Jun 07	0726		0801D	282	0.97	H-alpha	S
GEOR	Jun 08	0741	0744	0756	282		H-alpha	A; small double surges
DWIN	Jun 08	1029		1046			Decimeter	IV
BLEN	Jun 08	1034.6		1043.0			Meter	II
WEIS	Jun 08	1036.2		1102.0			Meter	II Harmonic
GEOR	Jun 08	1243	1305	1308	282		H-alpha	A; large double surges
BIGB	Jun 08	1546	1606	1647	094-101	1.0	H-alpha	SP
BIGB	Jun 08	1715	1720	1729	251	0.964	H-alpha	SP
DWIN	Jun 10	1147.1		1147.5			Decimeter	IV
BIGB	Jun 11	1422	1438	1504	259-262	1.0	H-alpha	SP
WEND	Jun 12	1254	1303	1307	075	1.04	H-alpha	S
DWIN	Jun 12	1517.8		1520.8			Decimeter	IV
CULG	Jun 13	0036.5		0059			Meter	II
WEND	Jun 13	0953E		1008D	099	1.05	H-alpha	S

MASS EJECTIONS FROM THE SUN

JUNE 1980

Station	Date 1980	Observed UT Start	Max	End	Location RA°	R/Ro	Wavelength	Type of Event
BIGB	Jun 14	1444	1501	1519	103	1.0	H-alpha	SP
BIGB	Jun 14	1705	1713	1722	101	0.786	H-alpha	SP
BIGB	Jun 14	2328	2341	0020	246	0.946	H-alpha	SP
MITK	Jun 14	2341E		0045	244	0.98	H-alpha	S
GEOR	Jun 15	0829	0845	0853	103-104		H-alpha	S
GEOR	Jun 16	1230		1317	233-236		H-alpha	Q
GEOR	Jun 17	0919		1118	231-234		H-alpha	Q
GEOR	Jun 17	0939	1014U	1044	243		H-alpha	A; surge
HOAK	Jun 18				075		White light	
BIGB	Jun 18	1936	1956	2012	082	1.0	H-alpha	SP
HAOC	Jun 18	2143E		2212	063	2.8		EL; spread 64°
BIGB	Jun 18	2337	2350	0004	251	0.661	H-alpha	SP
GEOR	Jun 20	0649		0706	104		H-alpha	A; surge
GEOR	Jun 20	0945		0946	104		H-alpha	A; surge
CULG	Jun 21	0052		0116.5			Meter; dekameter	II Herringbone
CULG	Jun 21	0059		0111			Meter	IV Weak
CULG	Jun 21	0111		0135			Meter	IV
CULG	Jun 21	0119		0138			Decimeter; meter	II
HALE	Jun 21	0125E	0159	0239	295-333	1.0-1.47	H-alpha	SP
CULG	Jun 21	0135		0150			Meter	IV Weak
HAOC	Jun 21	0407E		0415	300	3.7		CB; deceleration?
HALE	Jun 21	1739E	2344	0044	016	1.0-1.54	H-alpha	Q?
BIGB	Jun 21	2229	2233	2245	260	1.0	H-alpha	SP
CULG	Jun 23	2335		2337			Decimeter	IV Pulsations
CULG	Jun 24	0006		0028			Decimeter	IV
DWIN	Jun 24	0601.5		0603.0			Decimeter	IV
BIGB	Jun 25	2241	2301	2321	084	1.0	H-alpha	SP
BIGB	Jun 25	2347	2350	0001	290	1.0	H-alpha	SP
BIGB	Jun 26	1436	1443	1519	292	1.0	H-alpha	SP
DWIN	Jun 27	1614.5		1617.5			Decimeter	IV
HARV	Jun 27	1620		1643			Meter; dekameter	II
BIGB	Jun 27	2152	2205	2324	256	1.0	H-alpha	A
HAOC	Jun 28	0220E		0405	240			
CULG	Jun 28	0253		0318			Meter	II
MITK	Jun 28	0338		0425	244	0.99	H-alpha	S
DWIN	Jun 28	0444.0		0444.2			Decimeter	IV
WEIS	Jun 28	1116.3		1124.0			Meter	II Harmonic
HAOC	Jun 28	1154E						
HAOC	Jun 28	1900E		2210D	255			EL,R
HALE	Jun 28	1937E		2012	230	1.0-1.40	H-alpha	A
BIGB	Jun 28	2051	2155	2246	235	1.0	H-alpha	SP
CULG	Jun 29	0233		0241	230-240	1.6-1.7	160 MHz	IIIG, V*
CULG	Jun 29	0233		0241	240-250	1.6-2.0	80 MHz	IIIG, V*
HAOC	Jun 29	0240E		0258	247	2.6		EL; 680 km/s
CULG	Jun 29	0242		0245	240-250	1.7-1.8	160 MHz	II*
CULG	Jun 29	0242		0249	240-250	1.7-2.1	80 MHz	II*
CULG	Jun 29	0245		0400	240-248	1.8-2.0	160 MHz	IV*
CULG	Jun 29	0249		0332	252-238	2.0-2.5	80 MHz	IV*
CULG	Jun 29	0317		0344	250-230	2.6-3.4	43 MHz	IV*
WEIS	Jun 29	1047.6		1059.5			Meter	II Harmonic
BLEN	Jun 29	1049.9		1053.5			Meter	II
BIGB	Jun 29	1600	1604	1608	258	1.0	H-alpha	A
BIGB	Jun 29	1822	1830	19420	244	1.0	H-alpha	SP
HARV	Jun 29	1833		1836			Meter	II
HAOC	Jun 29	1846E		2003	247	4.8		EL; 560 km/s
DWIN	Jun 30	1824.5		1825.4			Decimeter	IV Fast drift
DWIN	Jun 30	1827.6		1828.3			Decimeter	IV Fast drift

QUALIFIERS ON START, MAX AND END TIMES
D = event ended after the tabulated time
E = event began before the tabulated time
U = uncertain time

TYPE OF EVENT
A = eruptive active region prominence
CB = coronal cloud bubble
D = coronal depletions
E = coronal enhancement
EL = coronal expanding loop
II = Type II radio burst
IVm = moving Type IV radio burst
Q = eruptive quiescent prominence
R = coronal ray or streamer
S = flare-surge if there is a known flare association
SP = flare-spray if there is a known flare association
* = movement may be caused by ionospheric refraction

REPORTING STATIONS
BIGB = Big Bear
BLEN = Bleien
CULG = Culgoora
DWIN = Dwingeloo
GEOR = Georgiana
HALE = Haleakala
HAOC = High Altitude Observatory's SMM Coronagraph/Polarimeter
HAOK = High Altitude Observatory's MARK-III Coronameter at Mauna Loa
HARV = Harvard (Fort Davis)
LEAR = Learmonth
MANI = Manila
MITK = Mitaka
NRLC = Naval Research Laboratory's White-Light Coronagraph Experiment on P78-1
PALE = Palehua
SGMR = Sagamore Hill
WEIS = Weissenau
WEND = Wendelstein
UDAI = Udaipur

NOTE: Because only a small fraction of the data taken by satellite-borne coronagraph had been analyzed at the time this table was assembled, many events are defined solely by ground-based observatory reports.

AUGUST 1979 DATA

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Hα SOLAR FLARES

AUGUST 1979

OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX LONG. DIST.	CENTRAL DISTANCE	HEMATH PLAGE REGION	CMP. DAY	MIN.		CONF.	TYPE	TIME UT	MEAS AREA Millionths of Disk	CORR AREA Sq. Deg.		
526 CULG	01	0329	0338	0406	N27	W14	.424	16171	31.1	37	?F		C	0338	260	2.9	F	ZX
	IMP.1	NO 1	FURP	HITK	PALE													
GRP76527	01	0427+3	0430+2	0440	S23	E02	.482	16174	1.3	13	-N							
PURP	01	0427	0430	0440	S24	E02	.497	16174	1.3	13	-F		C					
CULG	01	0427	0430	0448	S21	W02	.452	16174	1.0	21	-B		C	0430	130	1.4		
PALE	01	0430	0432	0436	S23	E02	.482	16174	1.3	6	-N	3	C		50		DE	
528 CULG	01	0516	0522	0535	S20	E43	.760	16186	4.4	19	-F		C	0522	100	1.6		ZX
529 CULG	01	0523	0530U	0606	N26	W15	.419	16171	31.1	43	-F		C	0530	120	1.3		ZX
530 CULG	01	0805	0808	0815	S09	W58	.863		27.9	10	-F		C	0808	40	.8		ZX
GRP76531	01	0625+3	0629+1	0707	S12	E08	.323	16175	1.9	42	1N						JV	
CATA	01	0625E	0630	0710	S12	E07	.327	16175	1.8	45D	-B	2	P	0630	140	1.5		
HTPR	01	0627	0630	0705	S12	E08	.323	16175	1.9	38	-N		C	0630	70	.7	E	
ABST	01	0628	0629	0656	S12	E09	.340	16175	1.9	28	1N		C	0628	244	2.7	FJV	
CULG	01	0628E	0638E	0708D	S13	E08	.348	16175	1.9	30D	2N		P	0638	520	5.5		
532 CULG	01	0659	0704	0707	N09	E23	.391		3.0	8	-N		C	0704	60	.7		ZX
GRP76533	01	0856+4	0858+2 1009+2	1025	S14	E06	.353	16175	1.8	89	-B						FJKU	
HTPR	01	0856	0858	1055	S12	E05	.317	16175	1.7	119	-N		C	0858	40	.4	EKU	
ABST	01	0856	0858	1008D	S13	E05	.332	16175	1.7	72D	-N		P	0858	166	1.8	DJ	
CATA	01	0900	0900	0920	S12	E06	.321	16175	1.8	20	-N	2	C	0900	67	.7		
HTPR	01	0927	1009	1055	S16	E04	.377	16175	1.7	88	-B		C	1009	30	.3	E	
KANZ	01	0930E	1011	1035	S14	E06	.353	16175	1.8	65D	-B	2						
ABST	01	0932	1003	1008D	S15	E07	.373	16175	1.9	36D	-N		P	1003	87	1.0	FJK	
ATHN	01	1008E	1010U	1033	S14	E09	.370	16175	2.1	25D	-B	3	C		80		F	
534 KANZ	01	1039	1047	1055	N24	E85	.993	16191	7.8	16	-F	2						ZX
GRP76535	01	1113+7	1118+2	1205	S13	E04	.329		1.8	52	-B						U	
HTPR	01	1113	1118	1205	S13	E04	.329		1.8	52	-N		C	1118	110	1.2	U	
CATA	01	1120	1120	1150D	S13	E05	.332		1.8	38D	1B	2	P	1120	393	4.3		
GRP76536	01	1405+9	1414+7	1440	S13	E02	.324	16175	1.7	35	-N						EK	
HOLL	01	1405	1421	1510	S13	E00	.322	16175	1.6	65	1B	3	C		213		FDE	
RAMY	01	1407E	1414U	1416D	S12	E01	.306	16175	1.7	9D	-B	2	C		72		F	
HUAN	01	1412		1457	S12	E03	.309	16175	1.8	45	-N	1	C	1415	40	.4	E	
HTPR	01	1412	1420	1510	S13	E02	.324	16175	1.7	58	-N		C	1420	40	.4	EK	
LVOV	01	1414	1421	1453	S09	E03	.260	16175	1.8	39	1N		C	1421	300	3.2	EKC	
KANZ	01	1416	1420	1432	S13	E03	.326	16175	1.8	16	-N	2						
BIGB	01	1416	1417	1429	S13	E04	.329	16175	1.9	13	-N	2	C	1417	90	.9		
GRP76537	01	1441+2	1443+0 1458	1507	S13	E03	.326	16175	1.8	26	-N				70	.7	KU	
BIGB	01	1441	1443	1507	S13	E04	.329	16175	1.9	26	-N	2	C	1443	50	.5		
HTPR	01	1441	1443	1510	S14	E02	.340	16175	1.8	29	-F		C	1443	90	1.0	KU	
HTPR	01	1441	1458	1510	S14	E02	.340	16175	1.8	29	-F		C	1458	10	.1	DK	
KANZ	01	1443	1443	1507	S13	E03	.326	16175	1.8	24	-N	2						
GRP76538	01	1601+5	1607+7	1637	S17	W65	.928	16169	27.8	36	-N							
KANZ	01	1601	1611	1637	S17	W64	.922	16169	27.9	36	-N	2						
BIGB	01	1602	1607	1645	S17	W65	.928	16169	27.8	43	-N	2	C	1607	70			
ZURI	01	1606	1614	1634	S18	W65	.929	16169	27.8	28	1F		C	1614	100			
539 KANZ	01	1641	1641	1649	N20	E08	.279	16177	2.3	8	-F	2						ZX
GRP76540	01	1644+2	1647+5	1702	S12	00	.305	16175	1.7	18	-B				60	.6	CY	
HTPR	01	1633	1651	1658	S12	E00	.305	16175	1.7	25	-B	*	C	1651	10	.1	CY	
HOLL	01	1644	1647	1703	S13	W01	.322	16175	1.6	19	-B	*	C		78			
KANZ	01	1645	1649	1705	S12	E01	.306	16175	1.8	20	-B	*						
ZURI	01	1646	1652	1700	S12	E01	.306	16175	1.8	14	-N	*	C	1652	60	.7		
GRP76541	01	1754+5	1800+1	1818	S13	W01	.322	16175	1.7	24	-N				60	.6		
HTPR	01	1754	1800	1806D	S12	E00	.305	16175	1.7	12D	-N		C	1800	40	.4	E	
HOLL	01	1758	1800	1818	S13	W02	.324	16175	1.6	28	-B	3	C		127		FDE	
HUAN	01	1759	1800	1814	S13	E02	.324	16175	1.9	15	-N	2	C	1800	60	.6	E	
PALE	01	1800E	1801U	1820D	S13	W02	.324	16175	1.6	20D	-B	3	C				FDE	
GRP76542	01	1835+3	1837+3	1850	S13	W02	.324	16175	1.6	15	-B				80	.8		
PALE	01	1835E	1837U	1850D	S13	W02	.324	16175	1.6	15D	-B	3	C				FDE	
HOLL	01	1837	1839	1851	S13	W02	.324	16175	1.6	14	-B	3	C		113		FDE	
BIGB	01	1838	1840	1844	S12	E00	.305	16175	1.8	6	-B	2	C	1840	50	.5		

Hα SOLAR FLARES

AUGUST 1979

OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX LONG. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		CONG	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
543 BIGB	01	1920	1924	1932	N20	E07	.272	16177	2.3	12	-F	3	C	1924	40	.4		ZX
544 BIGB	01	2001	2009	2017	N25	E80	.980	16191	7.8	16	-N	3	C	2009	20			ZX
545 BIGB	01	2022	2024	2032	N11	E26	.442	16182	3.8	10	-F	3	C	2024	20	.2		ZX
GRP76546	01	2027	2028	2042	N16	W36	.598	16171	30.2	15	-N				30	.4	C	
HOLL	01	2027	2028	2039	N15	W36	.595	16171	30.2	12	-N	3	C		36			
HUAN	01	2032E		2045D	N17	W37	.614	16171	30.1	130	-F	1	P	2033	20	.2	O	
GRP76547	01	2046+0	2046+3	2055	S12	W02	.307	16175	1.7	9	-B				20	.2	K	
BIGB	01	2046	2049	2055	S11	W01	.289	16175	1.8	9	-B	3	C	2049	20	.2	K	
HOLL	01	2046	2046	2055	S13	W03	.326	16175	1.6	9	-B	3	C		23			
GRP76548	01	2107+1	2108+4	2120	S24	W03	.499	16174	1.7	13	-N				40	.5	H	
HOLL	01	2107	2108	2117	S24	W03	.499	16174	1.7	10	-B	3	C		35			
VORO	01	2107	2112	2122	S24	W03	.499	16174	1.7	15	-N		C	2112	116	1.3	H	
BIGB	01	2108	2111	2120	S24	W03	.499	16174	1.7	12	-N	3	C	2111	30	.3		
GRP76549	01	2202+1	2204+1	2216	S11	W02	.290	16175	1.8	14	-N				90	.9	OK	
VORO	01	2202	2205	2216	S12	W03	.309	16175	1.7	14	-B		C	2205	90	.9	O	
CULG	01	2202	2204	2217	S11	W02	.290	16175	1.8	15	-N		C	2204	120	1.3		
BIGB	01	2203	2204	2215	S11	W01	.289	16175	1.8	12	-N	3	C	2204	20	.2	K	
GRP76550	01	2217+2	2220+1	2232	S13	W05	.332	16175	1.6	15	-N						E	
CULG	01	2217	2220	2230	S13	W07	.342	16175	1.4	13	1F		C	2220	270	2.9		
VORO	01	2219	2220	2234	S13	W04	.329	16175	1.6	15	-N		C	2220	134	1.4	E	
BIGB	01	2219	2221	2232	S14	W05	.348	16175	1.6	13	-N	3	C	2221	70	.7		
551 BIGB	01	2226	2231	2257	N24	E80	.980	16191	7.9	31	-N	3	C	2231	30			ZX
552 CULG	01	2311	2315	2327	S12	W07	.327	16175	1.4	16	-F		C	2315	30	.3		ZX
553 CULG	02	0001	0006	0024	S12	W03	.310	16175	1.8	23	-F		C	0006	40	.4		ZX
554 CULG	02	0008	0009	0019	N21	E03	.266	16177	2.2	11	-F		C	0009	40	.4		ZX
555 CULG	02	0105	0129	0144	S12	E62	.900	16192	6.7	39	?F		C	0129	100	2.3	T	ZX
	IMP.1	NO	FALE	PURP	VORO													
GRP76556	02	0455	0458+4	0513	N23	W21	.447	16171	31.6	18	-N						EGJ	
CULG	02	0455	0458	0513U	N25	W21	.466	16171	31.6	18D	-N		C	0458	60	.7		
ABST	02	0500E	0502	0513	N22	W22	.449	16171	31.6	13D	1F		P	0502	183	2.1	EGJ	
557 ISTA	02	0604E		0620	S13	W04	.330	16175	2.0	16D	-F		V				D	ZX
GRP76558	02	0622+5	0632	0647	N16	W42	.674	16171	30.1	25	-F						J	
ABST	02	0622	0632	0649	N19	W42	.681	16171	30.1	27	1F		C	0632	175	2.4	EJ	
ISTA	02	0627		0645	N14	W43	.683	16171	30.0	18	-F		V				D	
GRP76559	02	0807+7	0815+3	0840	S23	W09	.502	16174	1.7	33	-F						EJ	
HTPR	02	0807	0815	0840	S24	W10	.521	16174	1.6	33	-F		C	0815	30	.3	E	
KANZ	02	0814	0818	0825	S23	W09	.502	16174	1.7	11	-N	3						
ABST	02	0814E	0816	0842	S22	W09	.488	16174	1.7	28D	1F		P	0816	175	2.1	EJ	
GRP76560	02	0845+4	0900>9 0940	0945	N24	E74	.956	16191	7.9	60	1N						CGHLW	
YUNN	02	0845	0910	0935	N25	E78	.973	16191	8.2	50	1F		C		80			
HTPR	02	0847	0901	1000	N24	E75	.961	16191	8.0	73	-F		C	0901	10	.2	CW	
ABST	02	0848	0904	1002	N25	E79	.977	16191	8.3	74	1N		C	0904	87		DFW	
PURP	02	0848	0900	0904	N26	E66	.913	16191	7.3	16	-N		P				G	
KANZ	02	0849	0940	1003	N23	E72	.946	16191	7.8	74	1N	3						
KHAR	02	0900E	0906	0950D	N25	E73	.952	16191	7.9	50D	1N		P	0903			HLT	
CATA	02	0905	0910	0920	N23	E74	.956	16191	7.9	15	-N	2	C	0910	28			
561 KHAR	02	1025E		1055D	N25	E73	.952	16191	7.9	30D	-F		V	1025			LT	ZX
GRP76562	02	1048+4	1052+3	1108	S24	W10	.521	16174	1.7	20	-F						E	
KANZ	02	1048	1055	1115	S24	W10	.521	16174	1.7	27	-N	3						
HTPR	02	1051	1052	1101	S25	W12	.544	16174	1.6	10	-F		C	10[illegible]	20	.2	E	
KHAR	02	1052	1054	1100D	S23	W10	.507	16174	1.7	8D	-F		P	1053				
563 ZURI	02	1153	1155	1157D	N17	W44	.700	16171	30.2	4D	.		P	1155	200	2.9		ZX
	IMP.1	NO	KANZ	HTPR	LVOV													
564 HOLL	02	1316	1316	1334	N15	W45	.708	16171	30.2	18	-N	3	C		35			ZX

Hα SOLAR FLARES

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		CONF.	TYPE	TIME UT	MEAS. AREA Millionths of Disk	CORR AREA Sq. Deg.		
GRP76565	02	1517+2	1522+8	1544	N24	E71	.941	16191	8.0	27	-B				50		E	
MCMA	02	1517		1547D	N24	E72	.947	16191	8.0	30D	-N		C	1520	40	1.2	E	
KANZ	02	1518	1522	1529C	N24	E71	.941	16191	8.0	11D	-B	3						
BIGB	02	1519	1522	1541	N24	E70	.936	16191	7.9	22	-B	2	C	1522	60			
566 BIGB	02	1720	1721	1805	N25	E70	.936	16191	8.0	45	-N	3	C	1721	20			ZX
567 BIGB	02	1737	1740	1759	N18	W48	.747	16171	30.1	22	-F	2	C	1740	30			ZX
568 BIGB	02	1808	1811	1832	N25	E70	.936	16191	8.0	24	-B	3	C	1811	20		D	ZX
569 HOLL	02	1821	1857	1859	S07	E68	.934	16192	7.9	38	-N	3	C		20			ZX
570 HUAN	02	1926		1930	S10	E67	.931	16192	7.8	4	-F	1	C	1927	15		D	ZX
GRP76571	02	1941+3	1948	1951	S10	E64	.911	16192	7.6	10	-F							
HUAN	02	1941E		1947	S11	E65	.919	16192	7.7	6D	-F	1	P					
BIGB	02	1944	1948	1954	S10	E64	.911	16192	7.6	10	-N	3	C	1948	40			
572 HOLL	02	1951	1951	2009	N15	44W	.754	16171	30.2	18	-B	3	C		20		F	ZX
GRP76573	02	2105	2105	2121	N15	W51	.776	16171	30.1	16	-B				90	1.4		
HOLL	02	2105	2105	2121	N15	W51	.776	16171	30.1	16	-B	3	C		82		FDE	
PALE	02	2109E	2109U	2111D	N15	W51	.776	16171	30.1	2D	-B	3	C		100		FDE	
574 BIGB	02	2215	2216	2222	S10	E64	.911	16192	7.7	7	-N	3	C	2216	40	.9		ZX
575 CULG	02	2301	2316U	2332	S12	E63	.907	16192	7.7	31	?F		C	2316	120	2.7	T	ZX
	IMP.1 NO : BIGB																	
576 CULG	03	0109	0117	0141	S12	E60	.885	16192	7.5	32	?F		C	0111	160	3.6	T	ZX
	IMP.1 NO : BIGB			VORO														
577 CULG	03	0250	0252	0303	S23	W26	.622	16174	1.2	13	-N		C	0252	50	.7		ZX
578 CULG	03	0434	0438	0448	N30	W88	.997	16190	27.6	14	-N		C	0438	30		J	ZX
579 CULG	03	0507	0509	0520	S13	W18	.439	16175	1.9	13	-F		C	0509	40	.4		ZX
580 ABST	03	0508	0532	0552	N17	W56	.827	16171	30.0	44	-F		C	0532	87	1.5	CJK	ZX
581 ABST	03	0600	0607	0613	N24	E61	.876	16191	7.8	13	-N		C	0607	87		D	ZX
582 ABST	03	0614	0615	0622	N27	W71	.942	16196	28.9	8	?F		C	0615	87		DJ	ZX
	IMP.1 NO : KENO			HTPR														
583 ABST	03	0658	0700	0706	N28	W88	.997	16190	27.7	8	?F		C	0700	87		ADJ	ZX
	IMP.1 NO : HTPR			CATA														
584 ABST	03	0716	0718	0731	N27	W71	.942	16196	29.0	15	?F		C	0718	87		DJ	ZX
	IMP.1 NO : HTPR			CATA														
585 KANZ	03	0759	0807	0819	N28	W86	.994	16190	27.9	20	-F	3						ZX
586 KHAR	03	0830E		0850D	N24	W77	.969	16196	28.6	20D	-F		P	0830			T	ZX
GRP76587	03	0848+3	0852+2	0906	N35	W11	.512	16195	2.5	18	-N				80	.9	EG	
KANZ	03	0831	0852	0856D	N34	W11	.498	16195	2.5	25D	-N	3					G	
TFLV	03	0848	0853	0907	N38	E03	.533	16195	3.6	19	-N	3	C	0853	60	.6	G	
ABST	03	0851	0854	0904	N35	W11	.512	16195	2.5	13	-F		C	0854	105	1.2	EG	
588 KHAR	03	0852E		0905D	S08	E58	.862	16192	7.7	13D	-F		V	0852				ZX
589 KHAR	03	0905E	0905	0910D	N27	E60	.872	16191	7.9	5D	-F		V	0905			DT	ZX
590 KHAR	03	0915E		0940D	N17	W60	.863	16171	29.9	25D	-F		V	0915			ET	ZX
591 KHAR	03	0915E	0924	0953C	N24	W77	.969	16196	28.6	38D	?F	*	P	0924			T	ZX
	IMP.1 NO : HTPR			ABST														
592 KHAR	03	0930E	0931	0942	N25	W88	.997	16190	27.8	12D	-N		V	0930			D	ZX
GRP76593	03	1018+2	1019	1028	N17	W56	.827	16171	30.2	10	-F						D	
HTPR	03	1018	1019	1024	N17	W56	.827	16171	30.2	6	-F		C	1019	10	.2	D	
KANZ	03	1020		1031	N18	W56	.828	16171	30.2	11	-F	1						
594 KHAR	03	1034E	1036	1058D	N25	W88	.997	16190	27.8	24D	-F		P				D	ZX

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX LON DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		CONF.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
GRP76595	03	1038+1	1040+1	1050	N25	E60	.869	16191	7.9	12	-F						D	
TELV	03	1038	1040	1050	N09	E60	.862	16191	7.9	12	-N	3	C					
KHAR	03	1039E	1040	1052D	N27	E60	.872	16191	7.9	130	-F		P	1045	80	1.6	D	
HTPR	03	1039	1041	1050	N25	E60	.869	16191	7.9	11	-F		C	1041	20	.4	C	
596 KHAR	03	1040E		1109C	N18	W62	.879	16171	29.8	280	-F		P	1047	100		EH	ZX
597 KHAR	03	1125E	1127	1130D	N27	E59	.864	16191	7.9	50	-F		V	1127			EH	ZX
	03	1150	1202	NO FLARE PATROL														
GRP76598	03	1210>9	1250	12550	N27	W77	.969	16196	28.7	45	-N						OJK	
MCMA	03	1218E		1255C	N27	W79	.976	16196	28.6	450	-N		C	1221			OJK	
ZURI	03	1246	1250	1252C	N27	W76	.965	16196	28.8	60	-N		P	1250	40			
599 HOLL	03	1340	1401	1415	N25	W77	.969	16196	28.8	35	-N	3	C		20			ZX
GRP76600	03	1612+3	1616+3	1627	N26	W79	.976	16196	28.7	15	-N				40			
MCMA	03	1612	1616	1621	N27	W81	.983	16196	28.6	9	-N		C	1616				
BIGB	03	1613	1616	1627	N25	W80	.980	16196	28.7	14	-N	3	C	1616	60			
HOLL	03	1614	1615	1626	N25	W80	.980	16196	28.7	12	-N	3	C					
HTPR	03	1615	1616	1628	N26	W77	.969	16196	28.9	13	-F		C	1616	40			
HUAN	03	1617E		1628C	N26	W78	.973	16196	28.8	110	-N	1	P	1620	20		C	
601 BIGB	03	1706	1710	1718	N25	W80	.980	16196	28.7	12	-N	3	C	1710	30			ZX
602 BIGB	03	1805	1809	1821	N25	W80	.980	16196	28.8	16	-N	3	C	1809	40			ZX
603 CULG	04	0038	0042	0100U	N23	E50	.777	16191	7.8	220	-F		C	0042	60	1.0	F	ZX
604 CULG	04	0209	0216	0225	N25	E52	.801	16191	8.0	16	-N		C	0216	80	1.4		ZX
605 CULG	04	0249	0305	0313	N25	E50	.782	16191	7.9	24	-F		C	0305	40	.6		ZX
606 CULG	04	0421	0432	0442	S32	W37	.788		1.4	21	-F		C	0432	100	1.6		ZX
607 CULG	04	0447	0453	0551	N24	E49	.770	16191	7.9	64	-F		C	0453	60	1.0	F	ZX
608 ABST	04	0512	0521	0532	N17	W70	.935	16171	30.0	20	-F		C	0521	79		CJ	ZX
GRP76609	04	0544+3	0547+2	0558	S12	E43	.724	16192	7.5	14	-F				60	.9	CG	
CULG	04	0544	0547	0602	S12	E43	.724	16192	7.5	18	-F		C	0547	40	.6		
ABST	04	0547	0549	0554	S13	E44	.739	16192	7.5	7	-F		C	0549	87	1.3	CG	
610 ABST	04	0606	0616	0630	N25	E51	.791	16191	8.1	24	-F		C	0616	87	1.4	CJ	ZX
611 ABST	04	0618	0621	0624	N27	W89	.998	16196	28.6	6	?F		C	0621	79		ADJ	ZX
	IMP.1 NO 1 CULG																	
612 ISTA	04	0650E		0718	S14	E35	.644	16175	1.7	280	-B		V				C	ZX
GRP76613	04	0706+7	0716	0732	N26	E50	.784	16191	8.0	26	-N						EJ	
ABST	04	0706	0716	0733	N26	E52	.803	16191	8.2	27	1F		C	0716	218	3.6	EJ	
ISTA	04	0713		0730	N26	E48	.765	16191	7.9	17	-N		V				E	
614 ABST	04	0723	0726	0747	N27	W89	.998	16196	28.6	24	?F		C	0726	79		ADJ	ZX
	IMP.1 NO 1 HTPR																	
615 ABST	04	0819	0827	0846	N26	E50	.784	16191	8.1	27	-F		C	0827	87	1.4	CJ	ZX
616 KHAR	04	1013E		1017D	N26	W90	.999	16196	28.7	40	-F		V	1015			H	ZX
617 HUAN	04	1941		1945	N26	W90	.999	16196	29.1	4	-F	1	C	1941	20		D	ZX
GRP76618	04	2019+1	2021+1	2036	S13	W42	.717	16175	1.7	17	-B				70	1.0		
HOLL	04	2019	2021	2033	S14	W43	.733	16175	1.6	14	-B	2	C		93		CF	
PALE	04	2020	2022U	2039	S13	W42	.717	16175	1.7	19	-B	2	C		61		F	
	04	2103	2113	NO FLARE PATROL														
619 CULG	04	2313	2319	2328	N19	W77	.969	16171	30.2	15	-F		C	2319	40			ZX
620 HOLL	04	2323	2324	2335	N06	W30	.497	16176	2.7	12	-N	2	C		21			ZX
621 CULG	05	0103	0112	0127	S25	W55	.821	16174	31.9	34	-F		C	0112	60	1.2		ZX
622 CULG	05	0148	0151	0157	N19	W80	.980	16171	30.1	9	-F		C	0151	30			ZX

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	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		CONG	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
623 ABST	05	0403E	0609	0613D	N06	W35	.571	16176	2.6	100	-F		P	0609	87	1.1	OJ	ZX
GRP76624	05	0633+1	0635+1	0643	N18	W85	.993	16171	29.9	10	-N				60		AD	
ATHN	05	0633E	0635	0640	N19	W80	.980	16171	30.3	70	-N	1		0635	49	2.0		
ABST	05	0634	0636	0643	N17	W89	.999	16171	29.6	9	1N		C	0636	87		AC	
CULG	05	0635E	0635U	0643	N18	W85	.993	16171	29.9	80	-B		P	0635	40			
625 ISTA	05	0730E		0745	N16	W90	1.000	16171	29.6	150	-N		V				AB	ZX
626 ABST	05	0848E	0856	09060	N06	W3E	.585	16176	2.7	180	-F		P	0856	140	1.8	EJ	ZX
627 KHAR	05	0933E	0934	09540	N26	W90	.999	16196	29.6	210	-N		P				H	ZX
628 TELV	05	1048	1055	1109	N09	E43	.678		8.7	21	-N	3	C	1055	50	.7	G	ZX
629 KHAR	05	1052E	1053	11000	N23	E42	.692	16204	8.6	80	-F		P	1053			D	ZX
630 LVOV	05	1408	1408	1453	S27	E80	.994	16206	11.6	45	?F		C	1408	150		CD	ZX
	IMP.1 NO : KANZ HUAN																	
631 LVOV	05	1408	1408	1447	N08	W34	.612	16176	2.7	39	?F		C	1408	250	3.3	EC	ZX
	IMP.1 NO : KANZ HUAN																	
GRP76632	05	1430+8	1444+2	1455	S16	E75	.988	16205	11.5	25	-N						D	
LVOV	05	1430	1446	1453	S17	E80	.991	16205	11.6	23	1F		C	1446	200		CD	
KANZ	05	1437	1444	1458	S16	E75	.988	16205	11.5	21	-N	2						
BIGB	05	1438	1445	1455	S15	E78	.985	16205	11.5	17	-B	2	C	1445	20			
633 BIGB	05	2055	2059	21040	N05	W44	.692	16176	2.6	90	-N	1	P	2059	70	1.0		ZX
	05	2255	2330	NO FLARE PATROL														
634 ABST	06	0651	0657	0715	N21	W90	.999	16171	30.5	24	?F		C	0657	87		AD	ZX
	IMP.1 NO : PURP WEND CATA																	
635 ABST	06	0712	0716	0723	S28	W69	.964	16174	1.1	11	?F		C	0716	87		DJ	ZX
	IMP.1 NO : PURP WEND CATA																	
GRP76636	06	0831+4	0833+2 0844+1	0900	N07	W55	.815	16176	2.2	29	-N							
KANZ	06	0831	0835	0907	N07	W55	.815	16176	2.2	36	-N	2					F	
WEND	06	0831	0845	09040	N07	W57	.835	16176	2.1	330	-N		C	0845	30	.6	CD	
WEND	06	0831		0853	N09	W54	.805	16176	2.3	22	-F		C	0845	15	.3	CD	
PURP	06	0832	0833	0852	N05	W49	.752	16176	2.7	20	1F		C					
ABST	06	0832	0844	0856	N06	W55	.816	16176	2.2	24	1F		C	0844	148	2.7	E	
CATA	06	0835	0845	08450	N07	W55	.815	16176	2.2	100	-N	2	P	0845	56	1.0		
GRP76637	06	1007>9		1211	N18	E90	.999	16213	13.2	124	1N						A	
KANZ	06	1007		1206	N16	E90	1.000	16213	13.2	119	-B	2					A	
WEND	06	1056		12160	N25	E84	.990	16213	12.8	800	-N		C		40		A	
CATA	06	1110E	1110	11450	N18	E90	.999	16213	13.2	350	2F	2	P	1110	224			
	06	2059	2258	NO FLARE PATROL														
	06	2333	0000	NO FLARE PATROL														
638 CULG	06	2333E	2333E	0010	S16	W37	.679	16186	4.2	370	-F		C	2333	30	.4		ZX
639 CULG	07	0118	0122	0144	S17	W38	.696	16186	4.2	26	-F		C	0122	30	.4		ZX
640 CULG	07	0220E	0222	02570	N14	W73	.951	16177	1.6	370	-N		P	0222	60		C	ZX
641 ABST	07	0505E	0505	0512	N15	E89	.999	16208	13.9	70	?F		P	0505	87		D	ZX
	IMP.1 NO : PURP																	
642 CULG	07	0514E	0514E	0526	S18	E88	1.000		13.8	120	?N		P	0514	80		C	ZX
	IMP.1 NO : PURP ABST																	
643 ABST	07	0721E	0734	07390	N12	W79	.978	16177	1.4	180	?F		P	0734	157		E	ZX
	IMP.1 NO : PURP CATA WEND HTPR																	
644 KHAR	07	1804E	1805	10120	S22	E90	1.001	16211	14.2	80	-F		P	1805				ZX
645 KANZ	07	1446	1450	1454	N24	E84	.313	16191	7.9	8	-F	1						ZX
646 HOLL	07	1916	1917	1923	N16	E75	.961	16213	13.4	7	-B	3	C		17		F	ZX
647 BIGB	07	1955E	2000	20000	N11	E80	.982	16208	13.8	50	-N	1	P	2000	30			ZX

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	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX LONG. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		CONF.	TYPE	TIME UT	MEAS. AREA Mill of Disk	CORR. AREA Sq Deg		
GRP76648	07	2005+4	2010+1	2024	N03	W70	.939	16176	2.6	19	-N				30		E	
BIGB	07	2005E	2010	2028	N01	W70	.940	16176	2.6	230	-N	*	P	2010	40			
MCMA	07	2006E	2010	2024	N05	W71	.943	16176	2.5	180	-N	*	C	2010	30	1.0	E	
RAMY	07	2009	2011	2019	N03	W69	.932	16176	2.7	10	-N	*	C		14			
GRP76649	07	2006+2	2007+1 2032	2100D	N18	E77	.969	16208	13.6	54	-N						FHKLY	
MCMA	07	2006E		2058D	N18	E82	.986	16208	14.0	520	1B		C	2041			EFHKL	
RAMY	07	2007	2007	2028D	N16	E75	.961	16208	13.5	210	-F	2	C		22		F	
HOLL	07	2008	2008	2100D	N18	E74	.956	16208	13.4	520	-B	3	C				F	
BIGB	07	2017	2032	2053E	N20	E80	.980	16208	13.8	360	-B	2	P	2032	100		Y	
	07	2058	2101	NO FLARE PATROL														
	07	2113	2142	NO FLARE PATROL														
650 CULG	07	2355	2402	0018	S27	E79	.993	16211	13.9	23	-F		C	2402	40			ZX
651 CULG	08	0134	0144	0202U	N36	E25	.610		9.9	280	-N		C	0144	100	1.3	S	ZX
GRP76652	08	0607	0612	0747	N07	W73	.953	16176	2.8	100	1F						DJK	
ABST	08	0607	0612	0747	N07	W69	.930	16176	3.1	100	1F		C	0612	87		DJK	
CULG	08	0619U	0619U	0652U	N07	W77	.972	16176	2.5	330	-F		P	0619	50			
653 ABST	08	0731	0732	0749	N11	E80	.982	16208	14.3	18	?N		C	0732	87		DV	ZX
	IMP.1 NO : CATA PURP																	
GRP76654	08	1003+3	1005+4	1012C	N13	E84	.992	16208	14.7	9	-F						DH	
KHAR	08	1003	1005	1010D	N15	E83	.989	16208	14.6	70	-F		V	1005			H	
ABST	08	1006	1009	1012D	N11	E86	.996	16208	14.9	60	1F		P	1009	87		D	
GRP76655	08	1202	1205	1207	N30	E63	.895	16207	13.2	5	-F						C	
HTPR	08	1202	1205	1206	N30	E62	.889	16207	13.2	4	-F		C	1205	20	.4		
KHAR	08	1205E		1208D	N30	E65	.908	16207	13.4	30	-F		P				D	
656 KHAR	08	1212E		1223D	S24	E13	.542	16203	9.5	110	-F		P	1220	150	1.8		ZX
657 BIGB	08	1705	1707	1730	N05	W80	.983	16176	2.7	25	-N	1	C	1707	40			ZX
GRP76658	08	1737+6	1744+4	1803	N12	E70	.935	16208	14.0	26	-B				80		FU	
BIGB	08	1737	1744	1803	N12	E70	.935	16208	14.0	26	-B	2	C	1744	70			
PALE	08	1740	1745	1801	N11	E72	.947	16208	14.1	21	-N	3	C		81			
HOLL	08	1743	1748	1817	N15	E68	.922	16208	13.8	34	-B	3	C		136		U F	
659 CULG	08	2236	2248	2305	S09	E07	.288		9.5	29	-F		C	2248	30	.3	G	ZX
GRP76660	08	2242+6	2252+1	2319D	N18	E66	.908	16208	13.9	37	-F				30			
CULG	08	2242	2253	2356	N16	E67	.915	16208	14.0	74	-F		C	2253	40	.9		
BIGB	08	2248	2252	2319	N20	E66	.909	16208	13.9	31	-F	2	C	2252	20			
GRP76661	09	0051+0	0056+0	0118	N27	E57	.847	16207	13.3	27	-N							
PURP	09	0051	0056	0056D	N26	E56	.837	16207	13.2	5D	1N		P					
CULG	09	0051	0056	0118	N28	E58	.856	16207	13.4	27	-F		C	0056	60	1.1		
662 CULG	09	0312	0318	0329	S17	W65	.929	16186	4.3	17	?N		C	0318	140	3.5		ZX
	IMP.1 NO : PURP																	
663 CULG	09	0329	0332	0354	S29	E22	.658	16206	10.8	25	-B		C	0332	40	.5	H	ZX
664 CULG	09	0430U	0440U	0500U	N10	E65	.902	16208	14.1	30D	-F		C	0440	70	1.6	FT	ZX
665 ABST	09	0516	0518	0525	N12	E62	.878	16208	13.9	9	-F		C	0518	87		CJ	ZX
666 CULG	09	0519	0527	0541	N32	E59	.870	16207	13.6	22	-F		C	0527	70	1.4		ZX
667 ISTA	09	0616		0648D	N05	W90	1.000	16176	2.5	320	?N		V				A	ZX
	IMP.1 NO : CULG PURP CATA																	
668 CATA	09	0620	0625	0635	S21	E90	1.001		16.0	15	-F	2	C	0625	28			ZX
669 ISTA	09	0634		0648D	N16	E63	.886	16208	14.0	140	?B		V				E	ZX
	IMP.1 NO : CULG PURP CATA																	
670 CATA	09	0720	0720	0730	S16	W67	.939	16186	4.3	10	-N	2	C	0720	28			ZX
671 ISTA	09	0802		0805	S26	E23	.633	16206	11.1	3	-N		V				C	ZX
672 ISTA	09	0808		0810	N16	E63	.886	16208	14.1	2	-N		V				D	ZX

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX WEB. DIST.	CENTRAL DISTANCE	HEIMATH FLARE REGION	CMP. DAY	MIN.		CONG.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
673 KHAR	05	0817		0822D	N06	W90	1.000	16178	2.6	50	-F		P	0819			D	ZX
674 ATHN	09	0835	0838	0846	N12	E58	.843	16208	13.7	11	-B	3	C		32		F	ZX
GRP76675	09	0945+6	0951+1	1001	N13	E60	.861	16208	13.9	16	-F				30	.6	DJ	
ABST	09	0945E	0952	0957	N14	E61	.869	16208	14.0	120	-F		P	0952	96		DJ	
KHAR	09	0950E		0955D	N15	E61	.870	16208	14.0	50	-F		P	0950			DT	
HTPR	09	0950	0951	0954	N13	E60	.861	16208	13.9	4	-F		C	0951	20	.4		
ATHN	09	0951	0952	1025	N12	E57	.834	16208	13.7	34	-N	1		0952	33	.5		
ABST	09	0954	1002	1006D	N12	E65	.901	16208	14.3	120	-F		P	1002	87		DJ	
GRP76676	09	1020E		1035	S21	W68	.951	16186	4.3	15	-N						C	
KHAR	09	1020E		1023D	S18	W72	.966	16186	4.9	30	-F		P				C	
LOCA	09	1023E	1023	1035	S25	W65	.942	16186	4.6	120	1N		V	1023	102	2.7		
GRP76677	09	1020+1	1022	1027	N13	E60	.861	16208	13.9	7	-F				80	1.6	D	
KHAR	09	1020E		1023D	N15	E61	.870	16208	14.0	30	-F	*	P	1020	80		DT	
HTPR	09	1021	1022	1025	N13	E60	.861	16208	13.9	4	-F	*	C	1022	40	.8		
LOCA	09	1023E	1023	1028	N13	E60	.861	16208	13.9	50	1N	*	V	1023	122	2.5		
GRP76678	09	1059+2	1103	1110	N14	F60	.861	16208	14.0	11	-F							
KHAR	09	1059E		1109D	N15	E61	.870	16208	14.0	100	-F		P				DT	
HTPR	09	1101	1103	1110	N13	E59	.852	16208	13.9	9	-F		C	1103	30	.6	E	
GRP76679	09	1344+9	1424 1434	1459	N14	E59	.852	16208	14.0	75	-N							
HOLL	09	1344	1434	1501	N16	E60	.861	16208	14.1	77	-B	3	C		21			
BIGB	09	1420	1424	1457	N12	E59	.852	16208	14.0	37	-N	2	C	1424	38	.6		
680 HOLL	09	1438	1448	1504	S16	W69	.958	16186	4.4	26	-N	1	C		21			ZX
681 HOLL	09	1627	1630	1639	N16	E59	.853	16208	14.1	12	-N	3	C		24			ZX
GRP76682	09	1648>9	1727 1743+2	1823	N13	E57	.834	16208	14.0	95	-B				80	1.5		
HOLL	09	1648	1745	1840	N13	E58	.843	16208	14.1	112	-B	3	C		88		FDE	
HOLL	09	1648	1727	1840	N13	E58	.843	16208	14.1	112	-N	3	C		54		FDE	
RAMY	09	1721	1743	1823	N14	E57	.834	16208	14.0	62	-B	3	C		87		FDE	
HOLL	09	1727	1745	1747D	N13	E58	.843	16208	14.1	200	-B	3	V		88		FDE	
PALE	09	1739	1744	1809	N13	E57	.834	16208	14.0	30	-B	3	C		38		FDE	
	09	2142	2227	NO FLARE PATROL														
683 CULG	10	0100	0113	0144	S16	W85	.999	16186	3.7	44	-F		C	0113	20			ZX
GRP76684	10	0123+5	0134 0141+4	0220	N13	E53	.794	16208	14.0	57	1N				150	2.5	E	
MITK	10	0123		0220	N13	E53	.794	16208	14.0	57	1B		C	0145	190	3.2	E	
BIGB	10	0126E	0134	0139D	N13	E54	.804	16208	14.1	130	-N	1	P	0134	40	.7		
CULG	10	0128	0145	0259	N11	E53	.794	16208	14.0	91	-N		C	0145	120	1.9		
PURP	10	0138	0141	0155	N14	E52	.784	16208	14.0	17	1N		C					
685 CULG	10	0253	0332U	0348	N24	F44	.716	16207	13.4	55	-F		C	0332	80	1.1	KT	ZX
GRP76686	10	0355>9	0441+8	0534	N18	E49	.756	16208	13.8	99	2N						IJ	
CULG	10	0355	0403	0423	N20	F51	.780	16208	14.0	28	-F		C	0403	30	.5		
PURP	10	0405	0442	0533	N20	F50	.770	16208	13.9	98	2N		C		340	5.2		
CULG	10	0411	0411	0417	N13	E50	.762	16208	13.9	6	-F		C	0411	50	.8		
TACH	10	0435	0441	0515	N18	E46	.723	16208	13.6	40	1N		V	0441	229	3.3	E	
CULG	10	0442E	0449	0615	N23	E50	.776	16208	13.9	930	2N		C	0449	330	5.3	IF	
ABST	10	0501E	0505	0529	N19	E51	.779	16208	14.0	280	-F		P	0505	96	1.5	DJ	
ABST	10	0531	0533	0548	N13	E48	.740	16208	13.8	9	-N		C	0533	70	1.1	DJ	
687 PURP	10	0427	0442	0507	N26	E41	.691	16207	13.3	40	?N		C					ZX
	IMP.1 NO : YUNN																	
688 ABST	10	0501E	0503	0543	N32	E49	.751	16210	13.9	420	-F		P	0503	87	1.4	DJ	ZX
689 CULG	10	0524	0548U	0701	N30	F86	.993	16215	16.7	97	?N		C	0548	150		S	ZX
	IMP.1 NO : PURP YUNN TACH ABST MITK																	
690 CULG	10	0555	0558	0618	N14	F52	.784	16208	14.1	15	-F		C	0558	70	1.1		ZX

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX LONG DIST	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP DAY	MIN		CONF	TYPE	TIME UT	MEAS. AREA Millionths of Disk	CORR AREA Sq Deg		
GRP76691	10	0912+0	0916+5	1008	N12	E49	.751	16208	14.1	56	1S				300	4.6	JOZ	
ABST	10	0912	0916	1003	N13	E50	.762	16208	14.1	51	1N		C	0916	262	4.1	EJ	
YUNN	10	0912E	0921	0925D	N12	E50	.762	16208	14.1	130	2N		C		338			
KHAR	10	0912	0917	1005	N13	E49	.751	16206	14.1	53	1B		P	0918	330	5.0	EJO	
ABST	10	0912	0916	0940	N10	E55	.814	16208	14.5	28	1F		C	0916	157	2.6	FJ	
ABST	10	0914	0916	0928	N19	E59	.854	16208	14.8	14	-F		C	0916	96	1.8	DJ	
ATHN	10	0919E	0921U	1010	N12	E47	.728	16208	13.9	51D	-B	3	C		80		F	
CATA	10	0920	0920	0935D	N13	E49	.751	16208	14.1	15D	1B	2	P	0920	224	3.5	Z	
LOCA	10	0940E	0940	1010	N11	E49	.750	16208	14.1	30D	-N		V	0940	51	.8		
692 HTPR	10	1252	1256	1306	N13	E33	.547	16213	13.0	14	-F		C	1256	40		E	ZX
693 HTPR	10	1350	1353	1404	N13	E33	.547	16213	13.1	14	-F		C	1353	40	.5	E	ZX
694 BIGB	10	1844	1848	1902	N20	E40	.658	16208	13.8	18	-F	2	C	1848	20	.3		ZX
GRP76695	10	2013	2029 2043	2202	N13	W14	.264	16201	9.9	109	-N						GL	
BIGB	10	2013	2043	2202	N13	W14	.264	16201	9.8	109	-N	2	C	2043	150	1.6	G	
MCMA	10	2023E	2028	2057D	N14	W14	.271	16201	9.8	34D	-N		C	2028	125	1.4	EFL	
696 BIGB	10	2026	2040	2135	N24	W60	.867	16199	6.4	69	-N	2	P	2040	60	1.2	G	ZX
697 BIGB	10	2100	2103	2110	N22	W71	.940	16198	5.6	10	-N	2	C	2103	20			ZX
698 CULG	11	0023	0030	0113	S27	W13	.584	16203	10.0	50	-F		C	0030	50	.6	SFG	ZX
699 CULG	11	0116	0122	0150	S27	E02	.552	16206	11.2	34	-F		C	0122	60	.7	F	ZX
700 CULG	11	0400	0403	0411	N11	E35	.572	16208	13.8	11	-F		C	0403	20	.2		ZX
701 CULG	11	0428U	0429	0447	N16	E42	.672	16208	14.3	19D	-N		C	0429	60	.8		ZX
702 CULG	11	0445	0503	0520	S17	E57	.875	16219	15.5	35	-F		C	0503	30	.6	G	ZX
703 ISTA	11	0635E		0650	N12	E36	.587	16208	14.0	15D	-N		V				C	ZX
GRP76704	11	0713		0719	N18	E33	.562	16208	13.8	6	-N							
ISTA	11	0713		0717	N21	E33	.575	16208	13.8	4	-N		V				C	
ISTA	11	0717		0719	N16	E34	.588	16208	13.9	2	-N		V				C	
705 HTPR	11	1123	1125	1134	N13	E33	.547	16208	13.9	11	-F		C	1125	20	.2	E	ZX
706 RAMY	11	1256	1300	1312	S25	W09	.527	16206	11.2	16	-N	3	C		28		F	ZX
GRP76707	11	1337+0	1337+2	1345	N14	E32	.535	16208	14.0	8	-N				30	.4	E	
HTPR	11	1337	1337	1344	N13	E32	.533	16208	14.0	7	-N		C	1337	30		E	
RAMY	11	1337	1339	1346	N15	E32	.538	16208	14.0	9	-B	3	C		34			
708 RAMY	11	1355	1356	1358	N15	E32	.538	16208	14.0	3	-N	3	C		31			ZX
GRP76709	11	1655+3	1657+1	1711	N14	E30	.507	16208	14.0	16	-N				50	.6	E	
HTPR	11	1655	1658	1712	N13	E31	.518	16208	14.0	17	-N		C	1658	60	.7	F	
RAMY	11	1656	1657	1715	N15	E31	.524	16206	14.0	19	-B	3	C		68			
MCMA	11	1656E		1705D	N13	E30	.504	16208	14.0	9D	-N		C	1657	50	.6	E	
HOLL	11	1658	1658	1709	N16	E30	.514	16208	14.0	11	-B	3	C		48			
PALE	11	1701E	1701U	1707	N14	E29	.492	16208	13.9	6D	-N	3	C		25			
GRP76710	11	2335+1	2336+1	2344	N28	E19	.471	16207	13.4	9	-F				100	1.1		
CULG	11	2335	2336	2344	N28	E18	.462	16207	13.3	9	-F		C	2336	70	.8		
WORC	11	2336	2337	2339D	N28	E20	.481	16207	13.5	3D	-N		C	2337	134	1.5		
711 CULG	11	2351	2353	0005	N16	E24	.429	16208	13.8	14	-F		C	2353	50	.6		ZX
712 CULG	12	0012	0016	0026	N17	E28	.490	16208	14.1	14	-F		C	0016	30	.3		ZX
GRP76713	12	0055+3	0058+1	0107	N14	E26	.448	16208	14.0	12	-N				60	.7		
CULG	12	0055	0059	0107	N15	E23	.409	16208	13.8	12	-N		C	0059	60	.7		
PURP	12	0057	0058	0107	N14	E26	.448	16208	14.0	10	1N		P					
PALE	12	0058	0059	0103	N14	E26	.448	16208	14.0	5	-N	3	C		57		FDE	
714 CULG	12	0123	0129	0134	N11	E23	.393	16208	13.8	15	-F		C	0129	60	.7		ZX
715 CULG	12	0323	0326U	0335	N16	E22	.400	16208	13.8	12	-F		C	0326	30	.3		ZX
716 CULG	12	0357U	0515	0550	N23	E25	.488	16208	14.0	113D	-F		C	0515	160	1.8	SF	ZX

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	Hα MAP PLAGE REGION	CMP. DAY	MIN.		CONG	TYPE	TIME UT	MEAS. AREA Millionths of Disk	CORR AREA Sq. Deg.		
717 CULG	12	0411	0422	0457	N30	E24	.539	16210	14.0	46	-F		C	0422	60	.7		ZX
718 CULG	12	0444	0452	0512	N14	E21	.374	16208	13.8	28	-N	*	C	0452	80	.9		ZX
719 CATA	12	0710	0710	0715	N15	E26	.452	16208	14.2	5	-F	2	C	0710	28	.3		ZX
GRP76720	12	0955	1000	1010	N13	E16	.293	16208	13.6	15	-F				78	.7	D	
CATA	12	0955	1000	1010	N13	E17	.309	16208	13.7	15	-N	2	C	1000	56	.6		
KHAR	12	1000E		10100	N13	E16	.293	16208	13.6	100	-F		P	1000	80	.8	BD	
721 KHAR	12	1018E		1050C	N11	E21	.362	16208	14.0	320	-F		P	1025	110	1.2	D	ZX
	12	1150	1245	NO FLARE PATROL														
722 MCHA	12	1245E		1256	N15	E23	.489	16208	14.3	110	-N		C	1245	25	.3	D	ZX
723 VORO	12	2246	2247	22510	N13	E08	.178	16213	13.5	50	-N		P	2247	98	.9	DJ	ZX
GRP76724	13	0223>9	0238+3	0255	N13	E09	.190	16208	13.8	32	-N						J	
YUNN	13	0223	0240	0305	N13	E09	.190	16208	13.8	42	1N		C		345			
CULG	13	0231	0238	0301	N13	E08	.177	16208	13.7	30	-B		C	0238	98	.9	T	
PALE	13	0232	0241	0250	N11	E08	.158	16208	13.7	18	-B	3	C		79		FDE	
MITK	13	0234	0239	0253	N13	E09	.190	16208	13.8	19	-N		C	0239			E	
VORO	13	0234	0239	0250	N13	E09	.190	16208	13.8	16	1N		C	0239	224	2.3	J	
GRP76725	13	0532	0605+2	0621	S26	E90	1.001	16224	20.0	49	1N				80		ADJ	
ABST	13	0532	0607	0622	S25	E90	1.001	16224	20.0	50	1N		C	0607	87		ADJ	
CATA	13	0605E	0605	0620	S28	E90	1.001	16224	20.0	150	1B	2	P	0605	84		A	
GRP76726	13	0715+0	0718+2	0729	N12	E07	.153	16208	13.8	14	-N						AEJ	
KANZ	13	0715	0718	0726	N12	E07	.153	16208	13.8	11	-B	2						
ABST	13	0715	0715	0732	N12	E07	.153	16208	13.8	17	-F		C	0715	175	1.8	EJ	
CATA	13	0715E	0720	07200	N12	E06	.140	16208	13.8	50	-N	*	P	0720	84	.8	A	
GRP76727	13	0729+2	0733+4 0745	0805	S26	E90	1.001	16224	20.1	36	1N				130		AFJ	
KANZ	13	0711E		08020	S26	E90	1.001	16224	20.0	510	-B	*						
ABST	13	0729	0733	0755	S25	E90	1.001	16224	20.1	26	1N	*	C	0733	175		AFJ	
ZURI	13	0731	0737	0747	S26	E90	1.001	16224	20.1	16	-F	*	C	0737	90			
CATA	13	0735E	0745	08400	S29	E90	1.002	16224	20.1	650	2N	*	P	0745	168			
ZURI	13	0755	0801	0807	S26	E90	1.001	16224	20.1	12	-F	*	C	0801	80			
728 ZURI	13	0827	0829	0853	S26	E90	1.001	16224	20.1	26	-F	*	C	0829	70			ZX
GRP76729	13	0856>9	0911 0921	0932	S25	E90	1.001	16224	20.1	36	-N						ADJ	
ABST	13	0856E	0911	09330	S25	E90	1.001	16224	20.1	370	1N		P	0911	87		ADJ	
ZURI	13	0907	0921	0931	S26	E90	1.001	16224	20.1	24	-F		C	0921	50			
GRP76730	13	0947	0951 1107+3	1115	S26	E90	1.001	16224	20.2	88	1N						HOQ	
ZURI	13	0947	0951	1013	S26	E90	1.001	16224	20.2	26	-F	*	C	0951	30			
KHAR	13	1006E	1100	11060	S24	E90	1.001	16224	20.2	680	1N	*	P				HOQ	
CATA	13	1055E	1110	11150	S30	E90	1.002	16224	20.2	200	1N	*	P	1110	140			
ZURI	13	1059	1107	1115	S26	E90	1.001	16224	20.2	16	-F	*	C	1107	60			
731 ZURI	13	1029	1035	1047	N20	E72	.945	16218	18.8	18	-F		C	1035	40			ZX
732 BIGB	13	1424	1429	1436	S29	E05	.586	16211	14.0	12	-F	2	C	1429	30	.3	G	ZX
733 RAMY	13	1456	1457	1510	N15	E05	.170	16208	14.0	14	-N	3	C		42			ZX
734 BIGB	13	1533	1534	1544	S08	E68	.936	16221	18.7	11	-N	2	C	1534	30		G	ZX
735 BIGB	13	1538	1540	1542	S21	E90	1.001	16224	20.4	4	-N	2	C	1540	20			ZX
GRP76736	13	1807+8	1808+5	1820	S22	E90	1.001	16224	20.5	13	-F				30			
HUAN	13	1807		1809	S22	E90	1.001	16224	20.5	2	-F	1	C					
BIGB	13	1807	1808	1810	S21	E90	1.001	16224	20.5	3	-F	2	C	1808	30			
BIGB	13	1810	1813	1830	S23	E90	1.001	16224	20.5	20	-F	2	C	1813	30			
737 RAMY	13	1837	1837	1842	N15	E03	.156	16208	14.0	5	-N	3	C		23			ZX
	13	2017	2037	NO FLARE PATROL														
738 BIGB	13	2041	2042	2053E	S23	E90	1.001	16224	20.6	120	-F	2	P	2042	20			ZX

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OBSERV-ATORY	OBSERVED UT				LOCATION						DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY		MIN.		CONG.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
739 BIGB	13	2152	2211	2242	S23	E90	1.001	16224	20.7		50	-N	*	C	2211	30			ZX
740 CULG	13	2229	2251	2326	N14	E06	.165	16208	14.4		57	-F		C	2251	60	.6		ZX
GRP76741	13	2242+8	2244+2	2335	S26	E87	1.000	16224	20.5		53	-N				40		K	
CULG	13	2242U	224E	2342U	S27	E85	1.000	16224	20.3		60D	-N	*	C	224E	40		KT	
BIGB	13	2242	2244	2327	S25	E90	1.001	16224	20.7		45	-B	*	C	2244	40			
742 CULG	13	2340	2353	0010	N20	W02	.235	16208	13.8		30	-F		C	2353	100	1.0		ZX
743 CULG	14	0206	0228	0236	N18	E53	.797	16218	18.1		30	-N		C	0228	30	.5		ZX
744 CULG	14	0234	0236	0247	N16	E05	.184	16208	14.5		13	-F		C	0236	20	.2		ZX
745 TACH	14	0337E		0402D	S24	E67	.951	16225	19.2		25D	?F		V	0337	663		EF	ZX
	IMP.2 NO I ITK			CLLG															
746 CULG	14	0413	0422	0433	N20	W03	.237	16208	14.0		20	-N		C	0422	70	.7	LT	ZX
GRP76747	14	0509+2	0513+1	0527	N20	W05	.247	16208	13.8		18	-F				80	.8	DJ	
CULG	14	0509	0514	0530	N20	W06	.253	16208	13.8		21	-F		C	0514	80	.8	T	
ABST	14	0511	0513	0524	N21	W05	.262	16208	13.8		13	-F		C	0513	87	.9	DJ	
GRP76748	14	0514	0517	0609	S25	E76	.986	16224	19.9		55	1F						J	
			0527																
ABST	14	0514	0517	0608	S28	E85	1.000	16224	20.6		54	1F		C	0517	87		DJ	
ABST	14	0524	0527	0535	S24	E79	.992	16224	20.2		11	1F		C	0527	87		DJ	
WEND	14	0557E		0610D	S24	E71	.969	16224	19.6		13D	-F		C	0601	30		T	
749 HTPR	14	0530	0534	0548	S28	W03	.589	16211	14.0		18	-F		C	0534	30	.3	E	ZX
750 WEND	14	0614		0630	S05	E53	.811	16221	18.2		16	-F		C	0624	20	.3	D	ZX
GRP76751	14	0624>9	0655	0725	S24	E78	.990	16224	20.1		61	-N						EJ	
			0703																
WEND	14	0624		0704D	S24	E70	.965	16224	19.5		40D	-N		C	0700	35		T	
WEND	14	0649		0702	S22	E60	.993	16224	20.3		13	-N		C	0653	30		T	
ABST	14	0652	0655	0713	S26	E85	1.000	16224	20.7		21	1F		C	0655	157		EJ	
ABST	14	0701	0703	0725	S24	E79	.992	16224	20.2		24	1F		C	0703	87		DJ	
GRP76752	14	0735	0742+7	0906	S27	E76	.987	16224	20.0		91	1N						AFHJKU	
			0834+9					16224											
ABST	14	0735	0749	0805	S28	E85	1.000	16224	20.7		30	1N		C	0749	87		DJ	
ABST	14	0740	0742	0749	S26	E85	1.000	16224	20.7		9	1F		C	0742	114		DJ	
KANZ	14	0740E	0843	0925	S27	E70	.968	16224	19.6		105D	1B	2					UHF	
ISTA	14	0745E		0910	S25	E75	.983	16224	19.9		85D	3B		V				AK	
HTPR	14	0806	0811	0825	S25	E77	.988	16224	20.1		19	-F		C	0811	10			
HTPR	14	0827	0834	0842	S28	E80	.995	16224	20.4		15	-F		C	0834	20			
ABST	14	0830	0836	0846	S27	E88	1.000	16224	21.0		16	1N		C	0836	87		DJ	
ZURI	14	0833E	0855	0903	S27	E75	.984	16224	20.0		30D	1N	*	P	0855	140			
HTPR	14	0850	0854	0905	S28	E80	.995	16224	20.4		15	-F	*	C	0858	20			
GRP76753	14	0749+1	0755	0807	S27	W07	.563	16211	13.8		18	-N						D	
HTPR	14	0749	0755	0810	S28	W07	.577	16211	13.8		21	-F		C	0755	10	.1		
ISTA	14	0750		0803	S26	W08	.552	16211	13.7		13	-B		V				D	
GRP76754	14	0816+4	0821+3	0834	S25	W06	.532	16211	13.9		18	-N						EG	
KANZ	14	0816	0824	0858	S25	W06	.532	16211	13.9		42	-B	2					EG	
HTPR	14	0820	0821	0834	S27	W06	.560	16211	13.9		14	-F		C	0821	20	.2	E	
ISTA	14	0820		0833	S25	W15	.571	16211	13.2		13	-N		V				E	
GRP76755	14	0839+2	0842+1	0856	N19	W06	.237	16208	13.9		17	-F				130	1.3	DJ	
KANZ	14	0828	0843	0910	N19	W06	.237	16208	13.9		42	-N	2						
ZURI	14	0839	0843	0857	N19	W07	.245	16208	13.8		18	-F		C	0843	160	1.7		
TELV	14	0840	0843	0852	N20	W01	.223	16208	14.3		12	-N	2	C	0843	122	1.2		
ABST	14	0841	0842	0854	N20	W07	.260	16208	13.8		13	-F		P	0842	96	1.0	DJ	
GRP76756	14	0926>9	0950>9	1010	S27	E81	.996	16224	20.5		44	1N				90		J	
ABST	14	0926	0950	1004D	S27	E85	1.000	16224	20.8		38D	1F		P	0950	87		DJ	
ZURI	14	0949	0955	1005	S27	E75	.984	16224	20.0		16	-F		C	0955	80			
ABST	14	0958	1002	1004D	S24	E78	.990	16224	20.3		6D	1F		P	1002	87		DJ	
CATA	14	1000E	1000	1015D	S28	E85	1.000	16224	20.8		15D	1B	1	P	1000	112		T	

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	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	EMP. DAY	MIN.		CONF	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
GRP76757	14	1003+3	1006+4	1024	S16	W42	.735	16205	11.3	21	-N						E	
TELV	14	1003	1006	1016	S04	W48	.741	16205	10.8	13	-N	2	C	1006	120	1.8		
WEND	14	1003	1007	1025	S16	W40	.714	16205	11.4	22	-N		C	1007	34	.5		
ZURI	14	1003	1007	1023	S16	W41	.725	16205	11.3	20	-N		C	1007	80	1.2		
KANZ	14	1004	1008	1024	S16	W41	.725	16205	11.3	20	-N	2						
HTPR	14	1006	1010	1027	S17	W43	.750	16205	11.2	21	-N		C	1010	30	.5	E	
GRP76758	14	1025>9	1051	1107D	S27	E75	.984	16224	20.1	42	1N				120		EK	
KANZ	14	0926		1716D	S27	E70	.968	16224	19.7	460D	-N	2					TK	
CATA	14	1025E	1050	1050D	S27	E75	.984	16224	20.1	25D	2N	1	P	1050	196		T	
HTPR	14	1025		1059D	S28	E78	.992	16224	20.3	34D	-N		C	1045	80		EK	
ZURI	14	1037	1051	1107	S27	E75	.984	16224	20.1	30	1N		C	1051	120			
GRP76759	14	1042+1	1047+1	1124	S16	W39	.784	16205	11.5	42	-F				35	.5	U	
WEND	14	1042		1124	S16	W37	.682	16205	11.7	42	-F		C	1051	25	.3		
KANZ	14	1043	1047	1102	S17	W39	.789	16205	11.5	19	-F	2						
TELV	14	1043	1048	1129	S04	W45	.705	16205	11.1	46	-N	2	C	1048	40	.6	U	
760 KANZ	14	1108	1108	1114	S10	E54	.832	16221	18.5	6	-F	2						ZX
761 WEND	14	1153		1203	S23	E70	.963	16224	19.7	10	-N		C	1157	25		T	ZX
GRP76762	14	1217+2	1221+4 1231	1238	N20	W09	.276	16208	13.8	21	1N						EHL	
MCMA	14	1217	1225	1240	N20	W09	.276	16208	13.8	23	1N		C	1225	200	3.3	EL	
TELV	14	1217	1223	1239	N22	W03	.270	16208	14.3	22	1N	3	C	1223	240	2.5		
WEND	14	1218	1221	1236	N20	W10	.285	16208	13.8	18	-N		C	1221	75	.8	E	
HTPR	14	1219	1222	1236	N20	W09	.276	16208	13.8	17	-N		C	1222	70	.7	E	
RAMY	14	1228	1231	1258	N19	W10	.272	16208	13.8	30	1N	3	C		221		H	
763 WEND	14	1218		1231	S22	E69	.956	16224	19.7	13	-F		C	1223	45		T	ZX
GRP76764	14	1240+4	1244 1251	1451	S27	E76	.987	16224	20.2	131	1N						AEY	
MCMA	14	1240E	1251	1458	S27	E80	.995	16224	20.5	138D	2B		C	1251			EY	
RAMY	14	1243	1244	1743D	S22	E73	.974	16224	20.0	300D	1N	3	C				Y	
HTPR	14	1244		1311D	S28	E75	.985	16224	20.2	27D	-N		C	1248	140		E	
WEND	14	1244E		1430D	S27	E72	.975	16224	19.9	106D	1N		C	1258	70		AT	
ZURI	14	1300E	1311	1443	S27	E75	.984	16224	20.2	103D	2N		P	1311	200			
KANZ	14	1313E		1405D	S27	E75	.984	16224	20.2	52D	1N	1					Y	
HTPR	14	1323E		1442	S28	E75	.985	16224	20.2	79D	-N		C	1325	120		E	
HUAN	14	1340E		1411D	S27	E80	.995	16224	20.6	31D	-N	1	P	1347	40		E	
OPP76765	14	1410+0	1413 1506+2	1531	S22	E52	.852	16225	18.5	81	-N				30	.6	D	
MCMA	14	1410	1413	1534D	S16	E53	.840	16225	18.6	84D	-N	*	C	1413	25	.5	D	
HTPR	14	1410	1506	1528	S25	E52	.863	16225	18.5	78	-F	*	C	1506	20	.3		
RAMY	14	1500	1521	1539	S21	E52	.848	16225	18.5	39	-N	*	C		32			
RAMY	14	1500	1508	1539	S21	E52	.848	16225	18.5	39	-B	*	C		40			
HUAN	14	1500		1525	S23	E54	.870	16225	18.7	25	-F	*	C	1508	15	.3	D	
766 RAMY	14	1542	1548	1551	S17	W42	.740	16205	11.5	9	-N	3	C		21			ZX
GRP76767	14	1542+2	1544+3	1554	S23	E77	.987	16224	20.4	12	1B				120		AELY	
RAMY	14	1243	1546	1743D	S22	E73	.974	16224	20.0	300D	1B	*	C				Y	
HUAN	14	1542	1546	1552	S24	E80	.994	16224	20.7	10	-N	*	C	1546	20		D	
MCMA	14	1543	1545	1551D	S23	E80	.993	16224	20.7	8D	1B	*	C	1545			EL	
BIGB	14	1543	1544	1554	S23	E76	.984	16224	20.4	11	-B	*	C	1544	120		A	
KANZ	14	1543	1546	1554	S24	E75	.982	16224	20.3	11	-B	*					A	
HTPR	14	1544	1547	1555	S24	E76	.985	16224	20.4	11	-B	*	C	1547	120		E	
GRP76768	14	1609+3	1612+3	1622	S22	E53	.859	16225	18.6	13	-B				40	.8	D	
LOCA	14	1558	1612	1622	S22	E53	.859	16225	18.6	24	-N	*	V	1612	51	1.2		
RAMY	14	1609	1614	1623	S21	E51	.840	16225	18.5	14	-B	*	C		55			
KANZ	14	1610	1614	1622	S24	E55	.881	16225	18.8	12	-B	*						
HUAN	14	1612	1615	1619	S23	E56	.884	16225	18.9	7	-N	*	C	1615	25	.5	D	
BIGB	14	1612	1614	1624	S23	E53	.710	16225	18.7	12	-B	2	C	1614	30	.4		
MCMA	14	1613E		1622D	S16	E53	.840	16225	18.7	9D	-B	*	C	1613	30	.3	D	
769 WEND	14	1619E		1631	S27	E72	.975	16224	20.1	12D	-F	*	C	1621	40		AT	ZX
770 WEND	14	1700E		1729D	S27	E71	.972	16224	20.0	29D	-F	*	C	1717	65		T	ZX
GRP76771	14	1728+1	1730+0	1745	S18	W45	.774	16205	11.4	17	-N				50	.8	H	
WEND	14	1728		1730D	S16	W44	.755	16205	11.4	20	-N		C	1729	50	.8		
RAMY	14	1729	1730	1743D	S18	W45	.774	16205	11.4	140	-B	3	C		148		H	
HUAN	14	1729	1730	1745	S18	W46	.784	16205	11.3	16	-N	2	C	1730	50	.8		

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	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER DIST	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP DAY	MIN.		CONF	TYPE	TIME UT	MEAS. AREA Mill of Disk	CORR AREA Sq. Deg		
772 MCMA	14	1745E	1748	1846D	S27	E78	.991	16224	20.6	61D	?N		P	1748	80	4.6	E	ZX
	IMP.1	NO : SIGB		HUAN														
773 BIGB	14	1842	1844	1846	S23	E66	.945	16224	19.7	4	-B	1	C	1844	20			ZX
GRP76774	14	1915>9	1954	2017	S24	E68	.956	16224	19.9	62	-B				25		E	
			2C10+1															
MCMA	14	1915E		2046D	S24	E76	.985	16224	20.5	91D	1N		P	2029	70	2.5	F	
BIGB	14	1953	1954	2000	S23	F66	.945	16224	19.8	7	-B	2	C	1954	30			
BIGB	14	2009	2C10	2014	S26	E70	.967	16224	20.1	5	-B	2	C	2010	20		C	
RAMY	14	2010	2C11	2017	S22	E65	.938	16224	19.7	7	-B	*	C		32			
GRP76775	14	2013+1	2C15+0	2024	S23	E52	.855	16225	18.7	11	-N				45	.8	K	
MCMA	14	1902E		2040D	S16	E51	.822	16225	18.6	98D	-N	*	P	2024	50	1.0	EK	
BIGB	14	2013	2C15	2022	S23	E52	.855	16225	18.7	9	-B	*	C	2015	60	1.0		
HUAN	14	2014	2C15	2024	S23	E54	.870	16225	18.9	10	-N	*	C	2015	25	.4	C	
GRP76776	14	2048+0	2050+2	2101	S17	W48	.798	16205	11.3	13	-N				30	.5	C	
BIGB	14	2048	2050	2057	S16	W48	.794	16205	11.3	9	-B	?	C	2050	30	.5		
HUAN	14	2048	2052	2104	S17	W48	.798	16205	11.3	16	-N	1	C	2052	30	.5		
MCMA	14	2053E		2053D	S17	W50	.817	16205	11.1		-N		P	2053	40	.7	D	
GRP76777	14	2051+0	2052+0	2059	S23	E68	.955	16224	20.0	8	-B				70		E	
BIGB	14	2051	2052	2100	S22	E66	.943	16224	19.8	9	-B	2	C	2052	90			
HUAN	14	2051	2052	2057	S23	E68	.955	16224	20.0	6	-N	1	C	2052	50		E	
MCMA	14	2053E		2053D	S24	E68	.956	16224	20.0		1B		P	2053	80	2.9	E	
778 PALE	14	2130E	2130U	2215C	S25	E71	.970	16224	20.2	45D	-B	1	C		40		F	ZX
GRP76779	14	2147	2150+3	2200D	S15	W45	.761	16205	11.5	13	-N				60	.9	K	
BIGB	14	2147	2150	2200	S16	W45	.765	16205	11.5	13	-B	1	C	2150	40	.6		
CULG	14	2148E	2153U	2326	S15	W45	.761	16205	11.5	98D	-N		C	2153	80	1.3	K	
GRP76780	14	2311+0	2313+0	2320	S22	E69	.958	16224	20.1	9	-B							
CULG	14	2311	2313	2323	S23	F68	.955	16224	20.1	12	1B		C	2313	140			
BIGB	14	2311	2313	2317	S22	E70	.951	16224	20.2	6	-B	2	C	2313	40			
781 CULG	14	2329	2332	2342	S25	F46	.817	16225	18.4	13	-F		C	2332	80	1.5		ZX
782 CULG	14	2342	2359	0022	N21	W13	.328	16208	14.0	40	-N		C	2359	50	.5		ZX
GRP76783	14	2352+1	2356+2	0021	S25	F69	.982	16224	20.2	29	1B				150			
PALE	15	0000E	0000U	00050	S25	E70	.966	16224	20.3	50	-B	*	C		20		FDE	
CULG	14	2333	2358	0021	S28	F65	.948	16224	19.9	48	1N	*	C	2358	180		TF	
BIGB	14	2352	2356	0000	S23	E61	.955	16224	20.1	8D	-B	*	C	2356	60			
MITK	14	2353	2357	0020	S25	E78	.990	16224	20.8	27	1B	*	C	2357	150		E	
784 CULG	15	0038	0042	0046	S23	E68	.955	16224	20.1	8	-N		C	0042	50		FT	ZX
GRP76785	15	0041+0	0042+0	0053	S16	W51	.822	16205	11.2	12	-N				25	.4	E	
BIGB	15	0041	0042	0051	S16	W50	.813	16205	11.3	10	-N	2	C	0042	20	.3	E	
CULG	15	0041	0042	0054	S17	W52	.834	16205	11.1	13	-N		C	0042	30	.6	T	
786 CULG	15	0204	0210	0216	S27	F63	.937	16224	19.8	12	-F		C	0210	70		FT	ZX
787 CULG	15	0231	0238	0245	S27	E65	.940	16224	20.0	14	-N		C	0238	30		T	ZX
788 CULG	15	0330	0334	0351	S17	W53	.843	16205	11.2	21	-F		C	0334	30	.6	T	ZX
789 CULG	15	0335	0355	0400	S23	E64	.935	16224	19.9	25	-F		C	0355	30		JT	ZX
790 CULG	15	0355	0357	0416	N19	E42	.677	16218	18.3	21	-F		C	0357	40	.6		ZX
GRP76791	15	0404	0413+0	0423	S23	F66	.945	16224	20.1	19	-N						FK	
CULG	15	0404	0413	0428	S23	E64	.935	16224	20.0	24	-N		C	0413	60		FKT	
PURP	15	0413E	0413	0417	S24	E69	.961	16224	20.4	40	1N		P					
GRP76792	15	0411+2	0414+6	0431	S24	E48	.828	16225	18.8	20	1N						L	
CULG	15	0411	0420	0437	S24	E46	.812	16225	18.6	26	-B		C	0420	20	.4		
PURP	15	0413	0414	0425	S26	E48	.827	16225	18.8	12	1N		C					
TACH	15	0422E		0424D	S24	E48	.828	16225	18.8	2D	1N		V	0422	221	4.0	CL	
793 CULG	15	0450	0459	0514	N20	W18	.375	16208	13.9	24	-F		C	0459	40	.4		ZX
794 ABST	15	0502E	0506	0512	S09	E44	.726	16221	18.5	10D	-F		P	0506	87	1.3	D	ZX

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS		MEASUREMENTS			REMARKS
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX LONG. DISP.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		CONF.	TYPE	TIME UT	MEAS. AREA (mill. of Disk)	CORR. AREA (Sq. Deg.)	
GRP76795	15	0514+0	0516+1	0532	S16	W54	.848	16205	11.2	18	-N						OHJ
CULG	15	0514	0516	0530	S17	W54	.851	16205	11.2	16	-B		C	0516	40	.8	HT
ABST	15	0514	0517	0523	S16	W55	.857	16205	11.1	19	-F		C	0517	96	1.9	DJ
GRP76796	15	0517+3	0524+1	0536	S23	F67	.950	16224	20.2	19	1N				200		OHJ
ABST	15	0502E	0506	0538	S29	F65	.950	16224	20.1	360	1F	*	P	0506	87		DJ
CULG	15	0517	0524	0549	S23	E66	.945	16224	20.2	32	1B	*	C	0524	160		JTH
TACH	15	0519	0525	0531	S22	F68	.953	16224	20.3	12	2N	*	C	0525	248		E
ABST	15	0519	0525	0539	S22	F65	.950	16224	20.4	20	1N	*	C	0525	175		D
PURP	15	0520	0525	0532	S25	F68	.957	16224	20.3	12	2N	*	P		226	4.8	
797 CULG	15	0547	0550	0608	S19	E39	.722	16225	18.2	25	-F		C	0550	50	.7	ZX
798 CULG	15	0823	0714U	0714D	N28	W01	.365		15.2	510	?F		P	0714	220	2.4	SFIU ZX
	IMP.1	NO 1 FURP		ABST	MITK												
GRP76799	15	0642>9	0656 0709+?	0727	S25	F51	.904	16224	19.6	45	-F				50	1.1	FJK
WEND	15	0642E		0709D	S24	E54	.874	16224	19.3	270	-F		C	0709	30	.6	
ABST	15	0653	0656	0658	S25	E57	.897	16224	19.6	5	1N		C	0656	96	2.3	CJ
CULG	15	0703	0709	0713	S26	F65	.945	16224	20.2	10	-F		C	0709	50		FT
ABST	15	0709	0711	0740	S25	E59	.910	16224	19.7	31	-F		C	0711	87	2.0	DJK
800 CULG	15	0654	0659	0705	S25	W10	.548	16211	14.5	11	-F		C	0655	30	.4	ZX
801 KANZ	15	0727E		0742	S27	E57	.903	16224	19.6	150	-N	2					ZX
GRP76802	15	0727+1	0730+1	0736	S16	W55	.857	16205	11.2	11	-N						CJ
KANZ	15	0727E	0731	0735	S17	W54	.851	16205	11.3	80	-N	*					
ABST	15	0728	0730	0740	S16	W56	.865	16205	11.1	12	-N	*	C	0730	87	1.7	DJ
803 TELV	15	0741	0750	0824D	N18	W56	.824		11.1	430	-F	3	C	0750	68	1.1	E ZX
804 ABST	15	0805	0811	0852	S16	W53	.840	16205	11.4	47	-F		C	0811	79	1.5	DJ ZX
GRP76805	15	0818+1	0823+4	0850	S23	F44	.790	16225	18.6	32	-N				70	1.1	DJ
ABST	15	0818	0823	0833D	S24	E45	.804	16225	18.7	150	-N		P	0823	105	1.8	DJ
KANZ	15	0819	0827	0855	S26	F46	.822	16225	18.8	36	-N	2					
WEND	15	0821E		0835D	S23	E43	.782	16225	18.6	140	-N		C	0821	40	.6	
ZURI	15	0824E	0824	0844	S22	F44	.785	16225	18.7	200	-N		P	0824	70	1.0	
806 ABST	15	0826	0828	0833D	N21	W21	.421	16208	13.8	70	-F		P	0828	87	1.0	DJ ZX
807 ZURI	15	0955	1013	1039	S25	E62	.920	16224	20.1	44	-F		C	1013	50		ZX
808 KANZ	15	1050	1101	1117	S21	F63	.925	16224	20.2	27	-N	2					H ZX
809 CATA	15	1140	1140	1145D	S22	E62	.921	16224	20.1	50	-N	1	C	1140	67		ZX
810 RAMY	15	1232	1235	1246	N32	W24	.557	16207	13.7	14	-N	3	C		24		F ZX
811 MCMA	15	1313	1314	1345	S28	E63	.939	16224	20.3	32	-N		C	1314	30	.7	E ZX
812 MCMA	15	1313	1315	1321	N22	W20	.417	16208	14.1	8	-F	*	C	1315	20	.2	D ZX
GRP76813	15	1330+9	1339+3	1346	N21	W21	.421	16208	14.0	16	-N				60	.7	EU
KANZ	15	1330	1342	1346	N20	W21	.413	16208	14.0	16	-F	1					
WEND	15	1336		1347	N21	W21	.421	16208	14.0	11	-N		C	1340	60	.7	
RAMY	15	1338	1340	1346	N20	W21	.413	16208	14.0	8	-N	3	C		72		U
ZURI	15	1339	1339	1343	N21	W22	.423	16208	13.9	4	-N		C	1339	140	1.6	
MCMA	15	1342E		1346	N22	W22	.442	16208	13.9	40	-N		P	1342	50	.6	E
GRP76814	15	1359+6	1407+2	1424	N20	W24	.452	16208	13.8	29	-N				100	1.1	E
MCMA	15	1349	1408	1428D	N22	W25	.475	16208	13.7	390	-N		C	1408	75	.8	E
WEND	15	1359		1432	N20	W23	.439	16208	13.9	33	-N		C	1407	75	.9	
ZURI	15	1401	1407	1429	N21	W22	.423	16208	13.9	28	-B		C	1407	160	1.8	
KANZ	15	1402	1409	1429	N19	W24	.445	16208	13.8	27	-N	1					
HUAN	15	1404	1408	1425	N19	W25	.458	16208	13.7	21	-N	1	C	1408	50	.5	
RAMY	15	1405	1409	1425	N19	W24	.445	16208	13.8	20	-B	3	C		134		
RAMY	15	1405	1411	1425	N19	W24	.445	16208	13.8	20	-N	3	C		100		

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX. LAT.	APPROX. LNGD. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		CONF.	TYPE	TIME UT	MEAS. AREA Mill of Disk	CORR. AREA .Sq Deg.		
GRP76815	15	1524+4	1529+2	1541	S23	E41	.764	16225	18.7	17	-B				90	1.4	E	
MCMA	15	1524	1529	1546	S24	E41	.770	16225	18.7	22	1B		C	1529	120	2.1	E	
KANZ	15	1527	1531	1539	S24	F41	.770	16225	18.7	12	-B	2						
WEND	15	1527	1531	1539	S23	E40	.755	16225	18.6	12	-N		C	1531	75	1.1		
HUAN	15	1528	1530	1541	S24	E43	.787	16225	18.9	13	-N	2	C	1530	70	1.1		
RAMY	15	1528	1531	1550	S23	E41	.764	16225	18.7	22	1B	3	C		172			
BIGB	15	1528	1529	1538	S23	E41	.764	16225	18.7	10	-B	2	C	1529	70	1.0		
GRP76816	15	1641+1	1642+0	1645	S24	F53	.867	16224	19.7	4	-N							
BIGB	15	1641	1642	1644	S23	E52	.855	16224	19.6	3	-N	2	C	1642	10	.2		
KANZ	15	1642	1642	1646	S26	E54	.880	16224	19.7	4	-N	2						
GRP76817	15	1712+2	1714+5	1725	S27	E56	.897	16224	19.9	13	-N				50	1.1	E	
WEND	15	1712		1724	S26	F54	.880	16224	19.8	12	-F		C	1714	30	.6		
BIGB	15	1713	1714	1725	S26	E55	.887	16224	19.8	12	-B	2	C	1714	60	1.1		
KANZ	15	1713		1717D	S28	E57	.906	16224	20.0	40	-N	1						
MCMA	15	1714E		1719D	S28	E60	.923	16224	20.2	50	-N		P	1714	50	1.2	E	
RAMY	15	1714	1719	1730	S27	E53	.877	16224	19.7	16	-B	3	C		77		F	
HUAN	15	1714		1725	S28	E57	.906	16224	20.0	11	-F	1	C				E	
818 BIGB	15	1735	1736	1739	N18	E36	.600	16218	18.4	4	-F	2	C	1736	20	.3		ZX
GRP76819	15	1922	1924	1928D	S23	E38	.737	16225	18.7	6	-B						E	
BIGB	15	1922	1924	1928D	S23	E39	.746	16225	18.7	60	-B	1	P	1924	20	.3	E	
MCMA	15	1926E		1926D	S24	E38	.744	16225	18.7		-N		P	1926	60	.9	E	
	15	1928	1931	NO FLARE PATROL														
820 PALE	15	1931	1933	1957D	S23	E29	.656	16225	18.0	260	-N	3	C		36		F	ZX
821 CULG	15	2143E	2143E	2353U	N27	W3E	.640	16207	13.2	1300	?N		P	2143	310	4.0	E	ZX
	IMP.1 NO 1 EIGB																	
GRP76822	16	0034+2	0038+4	0057	S23	E36	.720	16225	18.7	23	-N						CH	
CULG	16	0034	0038	0101	S24	E35	.718	16225	18.6	27	-B		C	0038	110	1.5	HT	
MITK	16	0036	0042	0052	S23	E37	.729	16225	18.8	16	-N		C	0042			C	
823 CULG	16	0100	0101	0108	S30	E52	.882	16224	19.9	8	-F		C	0101	20	.5		ZX
824 CULG	16	0119	0122	0132	S25	E49	.841	16224	19.7	13	-F		C	0122	50	1.0		ZX
825 CULG	16	0154	0205	0227	N21	W31	.548	16208	13.8	33	-F		C	0205	50	.6		ZX
GRP76826	16	0438>9	0500+4 0516	0548	S27	E53	.877	16224	20.2	70	2N				340	6.7	EJKV	
CULG	16	0438	0501	0657D	S27	E54	.884	16224	20.2	1390	2B		C	0501	340	7.5	VFK	
TACH	16	0455	0500	0600D	S27	E53	.877	16224	20.2	650	2B		C	0500	354	7.5	E	
MITK	16	0501E	0504	0528	S27	F56	.897	16224	20.4	270	1N		C	0504	110	2.4	E	
ABST	16	0502E	0502	0555	S27	F53	.877	16224	20.2	530	2N		P	0502	410	8.6	EJ	
ABST	16	0507	0516	0529	S27	E46	.827	16224	19.7	22	1N		C	0516	218	3.8	E	
GRP76827	16	0600+0	0603 0615	0712	S26	E52	.867	16224	20.1	72	-N				100	1.9	IJU	
ATHN	16	0600E	0603	0719	S27	E52	.871	16224	20.2	790	-N	1		0603	82	1.8		
ABST	16	0600	0615	0655	S28	E55	.894	16224	20.4	55	1N		C	0615	175	4.0	GJ	
ABST	16	0600	0615	0712	S24	E50	.844	16224	20.0	72	-N		C	0615	105	2.0	GJ	
CATA	16	0605E	0605	0610D	S26	F53	.874	16224	20.2	50	1B	2	P	0605	140	2.9	T	
WEND	16	0607E		0622D	S26	F50	.852	16224	20.0	150	-N		C	0607	90	1.6	BE	
ISTA	16	0615E		0712	S22	F52	.852	16224	20.2	570	1B		V				U	
ISTA	16	0615E		0653	S26	F56	.894	16224	20.5	380	1B		V				D	
KIEV	16	0616E	0625	0700D	S27	F50	.857	16224	20.0	440	-F		C	0625	80		CI	
ABST	16	0644	0651	0655	S29	E53	.885	16224	20.3	11	-F		C	0651	87	1.9	GJ	
828 ABST	16	0720	0729	0735D	S23	E48	.824	16224	19.9	150	-N		P	0729	87	1.6	EJ	ZX
829 ABST	16	0742	0747	0757D	S20	E34	.675	16225	18.9	150	?F		P	0747	175	2.4	EJ	ZX
	IMP.1 NO 1 KIEV			PLRP	MONT	CATA												
830 ABST	16	0934	0935	0936D	S25	E30	.683	16225	18.6	20	-F		P	0935	140	2.0	CV	ZX
831 RAMY	16	1134	1141	1200	S25	E47	.825	16224	20.0	26	-N	3	C		23			ZX
GRP76832	16	1137+3	1145+0 1155	1303	N18	E25	.452	16218	18.4	86	1B				230	2.6	U	
RAMY	16	1137	1145	1314	N18	E24	.438	16218	18.3	97	-B	3	C		191		U	
KANZ	16	1137	1155	1251	N21	F25	.471	16218	18.4	74	1N	2						
CATA	16	1140	1145	1150D	N18	F25	.452	16218	18.4	100	1B	2	P	1145	281	3.2		

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OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS		MEASUREMENTS			REMARKS
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP DAY	MIN		CONG	TYPE	TIME UT	MEAS. AREA Unit of Disk	CORR AREA Sq. Deg	
833 RAMY	16	1204	1207	1217	S25	F47	.825	16224	20.0	13	-N	3	C		23		ZX
834 RAMY	16	1240	1240	1243	N10	F80	.982	16233	22.5	3	-F	3	C				ZX
GRP76835	16	1526+5	1532+1	1547	S26	F47	.83C	16224	20.2	21	-N				48	.7	E
HTPR	16	1526	1532	1540	S27	F46	.827	16224	20.1	14	-F		C	1532	30	.5	E
MCMA	16	1526E	1533	16000	S27	F47	.835	16224	20.2	140	-N		C	1533	90	1.6	E
BIGR	16	1526	1533	1554	S25	F49	.841	16224	20.3	28	-N	1	C	1533	50	.8	
RAMY	16	1531	1532	1540	S26	E48	.838	16224	20.2	9	-N	3	C		30		F
GRP76836	16	1626+1	1627+2	1645	S27	F45	.82C	16224	20.1	19	-F				20	.3	E
MCMA	16	1626	1629	1645	S27	E45	.820	16224	20.1	19	-N		C	1629	20	.3	E
HTPR	16	1627	1627	1644	S27	E45	.820	16224	20.1	17	-F		C	1627	20	.3	
	16	1955	2007	NO FLARE PATROL													
837 PALE	16	2022	2028	2033	S27	F43	.804	16224	20.1	11	-N	3	C		59		F ZX
	16	2056	2117	NO FLARE PATROL													
	16	2126	2129	NO FLARE PATROL													
	16	2332	2337	NO FLARE PATROL													
838 CULG	16	2343	2412	0032	S43	F55	.941		21.1	49	-F		C	2412	60		SG ZX
	17	0125	0129	NO FLARE PATROL													
	17	0135	0141	NO FLARE PATROL													
839 TACH	17	0407	0410	0415	S25	E36	.734	16224	19.9	8	7F		V	0412	221	3.3	E ZX
	IMP.1 NO I FURP MITK																
840 ABST	17	0508	0515	0536	S29	F29	.711	16224	19.4	28	-N		C	0515	87	1.3	C ZX
ORP76841	17	0615+3	0620+4	0640	S26	F37	.750	16224	20.0	25	-F						DJ
CULG	17	0615	0624U	0640	S27	E37	.757	16224	20.0	25	-F		C	0624	30	.5	T
HTPR	17	0616	0621	0637	S26	E37	.750	16224	20.0	21	-F		C	0621	10	.1	
ABST	17	0614	0620	0700	S25	F39	.760	16224	20.2	42	-N		C	0620	114	1.8	DJ
GRP76842	17	0758+1	0800+1	0807	S25	E35	.726	16224	20.0	9	-N						DJK
ABST	17	0758	0800	0800	S25	E34	.717	16224	19.9	100	-N		P	0800	87	1.3	DJK
MONT	17	0759	0801	0805	S26	E36	.742	16224	20.0	6	-N		C	0801	80		
843 ABST	17	0815	0819	08270	N27	W56	.837	16207	13.1	120	-F		P	0819	87	1.6	D ZX
GRP76844	17	0913+1	0915+1	0926	N07	F73	.953	16233	22.9	13	-N				80		J
MONT	17	0913	0916	0932	N08	F75	.963	16233	23.0	19	-N		C	0916	80		E
APST	17	0914	0915	0920	N06	F72	.948	16233	22.8	6	1N		C	0915	87		DJ
845 ABST	17	0921	0922	0931	S24	F34	.710	16224	19.9	10	-N		C	0922	87	1.3	CJV ZX
GRP76846	17	0958+5	1002+2	1008	S25	F33	.709	16224	19.9	10	-F						D
ABST	17	0958	1002	10040	S24	F34	.710	16224	20.0	60	-F		C	1002	122	1.8	C
HTPR	17	1003	1004	1008	S26	E33	.717	16224	19.9	5	-F		C	1004	30	.4	
847 KHAR	17	1045E		11050	S26	F27	.668	16224	19.5	200	-F		P	1050	60	.8	CH ZX
848 KHAR	17	1132E		11360	S24	F30	.675	16224	19.7	40	-F		P	1134	75	1.1	C ZX
849 HUAN	17	2110		2115	S24	F24	.624	16224	19.7	5	-F	1	C	2114	20	.2	C ZX
850 MANI	18	0256E	0258	03050	S25	E18	.592	16224	19.5	90	-B	3	C		100		ZX
GRP76851	18	0514+0	0515+1	0526	S23	E17	.561	16224	19.5	12	-F				110	1.3	V
TACH	18	0514	0516	0530	S24	F17	.573	16224	19.5	16	-F		C	0516	106	1.4	E
ABST	18	0514	0515	0522	S23	F17	.561	16224	19.5	8	-N		C	0515	105	1.3	DV
GRP76852	18	0618+2	0625	0644	N08	E55	.814	16233	22.4	26	-N						EG
ISTA	18	0618		0648	N08	F52	.843	16233	22.6	30	-B		V				EG
HTPR	18	0620	0625	0640	N08	F53	.794	16233	22.2	20	-F		C	0625	30	.5	
853 ISTA	18	0700		0720	N13	W48	.725	16208	14.7	20	-N		V				D ZX
GRP76854	18	0848+9	0950+1 1001	1004	S26	F24	.646	16224	20.2	76	1F				160	2.1	EJ
ABST	18	0848	0950	1004	S26	E26	.661	16224	20.3	76	1F		C	0950	175	2.4	EJ
HTPR	18	0949	0951	1000	S27	E26	.671	16224	20.4	11	1N		C	0951	150	1.7	E
ABST	18	0950	0953	1000	S27	F17	.610	16224	19.7	10	-F		C	0953	96	1.2	D
ABST	18	0955	1001	1005C	S25	F24	.635	16224	20.2	100	-F		P	1001	87	1.2	D

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX LON. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		CONG	TYPE	TIME UT	MEAS AREA Mill of Disk	CORR AREA Sq. Deg.	
	18	1120	1127	NO FLARE PATROL													
	18	1136	1151	NO FLARE PATROL													
	18	1155	1203	NO FLARE PATROL													
	18	1207	1217	NO FLARE PATROL													
	18	1238	1249	NO FLARE PATROL													
855 HUAN	18	1327	1328	1332	S24	E17	.573	16224	19.8	5	-F	1	C	1328	15	.2	C ZX
GRP76856	18	1400+2	1402+1	1411	S25	E17	.585	16224	19.9	11	-N				45	.5	
HUAN	18	1400	1402	1411	S24	E15	.560	16224	19.7	11	-N	2	C	1402	40	.4	E
RAMY	18	1402	1403	1410	S26	E19	.610	16224	20.0	8	-B	3	C		45		F
GRP76857	18	1421+1	1430+1	1435	N08	E90	1.000	16239	25.3	14	-B						
HUAN	18	1421	1430	1436	N08	E90	1.000	16239	25.3	15	-N	1	C	1430	30		
RAMY	18	1422	1431	1434	N09	E90	1.000	16239	25.3	12	1B	3	C				
GRP76858	18	1448	1503 1516+4	1533	N09	E85	.995	16239	25.0	45	-N						
RAMY	18	1448	1503	1533	N09	E81	.985	16239	24.7	45	-N	3	C				
RAMY	18	1448	1520	1533	N09	E81	.985	16239	24.7	45	-N	3	C				
BIGB	18	1457E	1516	1529E	N09	E90	1.000	16239	25.4	320	-N	1	P	1516	60		
GRP76859	18	1454+0	1454+1	1502	S26	E21	.624	16224	20.2	8	-N				40	.5	
HUAN	18	1454	1454	1500	S27	E25	.663	16224	20.5	6	-N	2	C	1454	40	.5	E
RAMY	18	1454	1455	1503	S26	E18	.604	16224	20.0	9	-B	3	C		41		FDE
GRP76860	18	1731+0	1741+2	1812D	S15	E76	.979	16240	24.4	41	-B				45		
RAMY	18	1731	1741	1812D	S14	E73	.967	16240	24.2	410	-B	3	C				FDE
BIGB	18	1731	1743	1752D	S16	E76	.980	16240	24.4	210	-B	1	P	1743	60		
HUAN	18	1731		1744D	S15	E82	.995	16240	24.9	130	-N	1	P	1739	30		E
GRP76861	18	1847+0	1849	1902	S25	E14	.567	16224	19.8	15	-N				40	.5	E
HUAN	18	1847		1856	S24	E13	.549	16224	19.8	9	-N	1	C	1849	35	.4	E
HOLL	18	1847	1849	1908	S26	E16	.592	16224	20.0	21	-B	3	C		40		
862 HUAN	18	1928		1933	S27	E23	.649	16224	20.5	5	-F	1	C				E ZX
GRP76863	18	2030+1	2032	2047	S24	E13	.549	16224	19.8	17	-N				35	.4	E
HUAN	18	2030		2045D	S23	E11	.525	16224	19.7	15D	-N	1	P	2030	30	.3	E
HOLL	18	2031	2032	2047	S26	E16	.592	16224	20.1	16	-B	3	C		36		
	18	2110	2126	NO FLARE PATROL													
	18	0109	0111	NO FLARE PATROL													
	18	0115	0154	NO FLARE PATROL													
864 CULG	18	2310	2329	0007U	S25	E45	.810		22.3	570	-F		C	2329	100	1.7	L ZX
865 CULG	18	2343	2345	2353	S26	E16	.592	16224	20.2	10	-F		C	2345	30	.4	ZX
866 PURP	19	0017	0021	0035	S17	E39	.711	16231	21.9	18	?F		P				G ZX
	IMP.1 NO I CULG			VORO													
867 CULG	19	0022	0024	0031	S33	W55	.911	16211	14.9	9	-N		C	0024	40	.9	G ZX
868 CULG	19	0147	0149	0159	S33	W55	.911	16211	14.9	12	-F		C	0149	50	1.1	G ZX
869 VORO	19	0212	0214	0217	S27	E17	.610	16224	20.4	5	-N		C	0214	63	.8	ZX
870 CATA	19	0530E	0530	0540	N07	E90	1.000	16239	26.0	100	?N	2	P	0530	56		ZX
	IMP.1 NO I PURP			MITK TACH													
GRP76871	19	0543+8	0545+1 0604	0606	S26	E04	.545	16224	19.5	23	-N				90	1.1	E
TACH	19	0543	0546	0556D	S25	E04	.531	16224	19.5	130	-B		C	0546	86	.9	E
ABST	19	0543	0545	0601	S26	E04	.545	16224	19.5	18	-N		P	0545	87	1.1	E
ABST	19	0551	0604	0611	S27	E11	.580	16224	20.1	20	1F		C	0604	122	1.5	C
GRP76872	19	0614+1	0615+5	0626	S22	E03	.484	16224	19.5	12	-N				50	.6	D
ABST	19	0614	0620	0626	S24	E03	.514	16224	19.5	12	-N	*	P	0620	157	1.9	D
MANI	19	0615E	0615U	0621	S22	E07	.494	16224	19.8	60	-N	3	C		25		
CATA	19	0615	0615	0630D	S22	W04	.486	16224	19.0	150	-N	*	P	0615	45	.5	
GRP76873	19	0658+1	0700	0712	S22	E06	.491	16224	19.7	14	-N				30	.3	J
ISTA	19	0658		0708	S21	E07	.479	16224	19.8	10	-N		V				E
ABST	19	0659	0700	0708D	S23	E05	.503	16224	19.7	90	-N		P	0700	105	1.3	DJ
MANI	19	0705E	0705U	0713D	S22	E09	.502	16224	20.0	80	-N	3	C		15		
CULG	19	0707E	0707E	0712	S24	E04	.516	16224	19.6	50	-F		P	0707	30	.3	

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
874 ISTA	19	0744		0757	N04	E90	1.000	16239	26.1	13	-F		V				AD	ZX
875 ABST	19	0755	0755	0757D	N21	W71	.939	16208	14.8	2D	?N		P	0755	131		EJ	ZX
	IMP.1 NO ⚡ CATA																	
876 ABST	19	0802E	0803	0827	N16	E90	.999	16238	26.1	25D	?F		P	0803	87		DJ	ZX
	IMP.1 NO ⚡ CATA																	
877 ABST	19	0808	0811	0834	S25	E15	.574	16224	28.5	26	-F		C	0811	148	1.8	E	ZX
GRP76878	19	0844	0845	0850	S23	E04	.501	16224	19.7	6	-N				110	1.3	V	
ABST	19	0844	0845	0847	S23	E04	.501	16224	19.7	3	-N		C	0845	114	1.4	EV	
KHAR	19	0845E		0853	S23	E05	.503	16224	19.7	8D	-N		P	0850	110	1.3	D	
879 KHAR	19	0852E	0857	0915D	N13	W63	.885	16208	14.6	23D	?F		P	0857			EO	ZX
	IMP.1 NO ⚡ CATA			ABST														
880 KHAR	19	0855E	0855	0910D	N05	E90	1.000	16239	26.1	15D	-N		P	0855			DHO	ZX
881 KHAR	19	0910E	0912	0924D	N07	E43	.678	16233	22.6	14D	-F		V	0912			EL	ZX
882 ABST	19	0911	0912	1000D	N16	E90	.999	16238	26.1	49D	?F		P	0912	87		ADV	ZX
	IMP.1 NO ⚡ CATA																	
883 KHAR	19	0940E		1000D	N05	E90	1.000	16239	26.2	20D	-F		V	0940			DH	ZX
884 KHAR	19	1022E		1045D	N05	E90	1.000	16239	26.2	23D	-F		V	1024			DH	ZX
885 KHAR	19	1031E	1033	1106D	S16	E45	.767	16231	22.8	35D	1F		P	1033	150	2.5	CH	ZX
886 KHAR	19	1036E		1048D	S16	E67	.940	16240	24.5	12D	-F		V	1036			D	ZX
887 KHAR	19	1036E		1048D	N07	E43	.678	16233	22.7	12D	-F	*	V	1036			EL	ZX
	19	1106	1111	NO FLARE PATROL														
888 RAMY	19	1146	1201	1206	S14	E44	.747	16231	22.8	20	-N	3	C		18			ZX
889 RAMY	19	1209	1211	1237	N13	W61	.868	16208	14.9	28	-N	3	C		17			ZX
GRP76890	19	1314+5	1334+1	1405	S14	E44	.747	16231	22.9	51	-N				60	.9		
RAMY	19	1314	1335	1405	S14	E44	.747	16231	22.9	51	-N	3	C		57			
MCMA	19	1319		1408	S17	E46	.781	16231	23.0	49	-N		P	1335	35	.6	E	
LVOV	19	1334	1334	1349	S14	E45	.758	16231	22.9	15	1N		C	1334	200	3.1	DC	
ZURI	19	1339E	1339	1349D	S15	E44	.752	16231	22.9	10D	-N		P	1339	60	1.0		
GRP76891	19	1536+3	1548+2	1557	S26	E06	.549	16224	20.1	21	-N				50	.6	E	
HUAN	19	1536		1557	S26	E08	.555	16224	20.3	21	-N	1	C	1547			E	
BIGB	19	1538	1542	1556	S25	E05	.533	16224	20.0	18	-N	2	C	1542	50	.5		
HOLL	19	1538	1540	1559	S26	E05	.547	16224	20.0	21	-B	3	C		57			
RAMY	19	1539	1540	1552	S25	E05	.533	16224	20.0	13	-N	3	C		33			
MCMA	19	1549E		1550D	S27	E07	.566	16224	20.2	1D	-F		P	1549	30	.3	E	
892 BIGB	19	1541	1544	1608	S16	E43	.747	16231	22.9	27	-N	2	C	1544	40	.3		ZX
GRP76893	19	1554+1	1555+1	1607	S16	E62	.910	16240	24.3	13	-F				20	.5		
HOLL	19	1554	1555	1614	S16	E62	.910	16240	24.3	20	-F	3	C		23			
RAMY	19	1555	1556	1559	S17	E63	.918	16240	24.4	4	-F	3	C		20			
GRP76894	19	1645+0	1647	1700	S15	E43	.742	16231	22.9	15	-F				20	.3	D	
HUAN	19	1645E		1649D	S15	E45	.762	16231	23.1	4D	-F	1	P	1648	20	.3	CO	
BIGB	19	1645	1647	1700	S16	E42	.736	16231	22.8	15	-N	1	C	1647	20	.3		
895 MCMA	19	1729	1734	1738D	S18	E42	.747	16231	22.9	9D	-N		C	1734	25	.4	D	ZX
896 PALE	19	1758	1759	1806	N13	W65	.908	16208	14.9	8	-N	3	C		22			ZX
GRP76897	19	1826	1827	1834	S17	E41	.731	16231	22.8	8	-N				20	.3	D	
PALE	19	1826	1827	1832	S16	E41	.726	16231	22.8	6	-N	3	C		21		DE	
MCMA	19	1827E		1835	S18	E42	.747	16231	22.9	8D	-N		C	1827	20	.3	D	
898 HOLL	19	2019	2020	2029	S24	E02	.513	16224	20.0	10	-B	3	C		35		F	ZX
899 HOLL	19	2053	2058	2118	N12	W66	.908	16208	14.9	25	-B	3	C		35		F	ZX
900 HOLL	19	2107	2110	2117	S22	W03	.484	16224	19.7	10	-B	3	C		51		U	ZX

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OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		CONF.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
901 HOLL	19	2156	2157	2205	N11	W69	.928	16208	14.7	9	-N	3	C		12			ZX
902 HOLL	19	2223	2224	2233	S26	E02	.543	16224	20.1	10	-N	3	C		23		F	ZX
GRP76903	19	2228+9	2251 2306+7	2329D	N05	E83	.991	16239	26.2	61	-N						KY	
HOLL	19	2228	2306	0033	N07	E80	.983	16239	25.9	125	-B	3	C				Y	
HOLL	19	2228	2251	2339	N07	E80	.983	16239	25.9	71	-N	3	C				Y	
CULG	19	2237	2313	2329	N03	E86	.997	16239	26.4	52	-F		C	2313	40		KT	
GRP76904	19	2330+3	2335+1 2344	2346	N04	E85	.996	16239	26.4	16	-N						DY	
HOLL	19	2228	2336	2339	N07	E80	.983	16239	25.9	71	-B	3	C				Y	
CULG	19	2338	2344	0002	N03	E85	.996	16239	26.4	32	1N		C	2344	80		T	
VORO	19	2333	2335	2346	N04	E90	1.000	16239	26.7	13	-N		C	2335	18		D	
905 CULG	19	2359	2406	0014	N11	W85	.994	16208	13.6	15	-F		C	2406	30		F	ZX
GRP76906	20	0010+4	0015+4	0028	N03	E87	.998	16239	26.5	18	-N						D	
CULG	20	0010	0023	0033	N03	E85	.996	16239	26.4	23	1N	*	C	0023	100		T	
VORO	20	0014	0019	0023	N04	E90	1.000	16239	26.8	9	-F	*	C	0019	27		D	
GRP76907	20	0035>9	0059 0209	0220D	N16	W76	.965	16208	14.3	105	1F						FIJS	
CULG	20	0035U	0128U	0252U	N18	W80	.980	16208	14.0	137D	1F		C	0128	110		FIS	
VORO	20	0057	0059	0109	N16	W73	.956	16208	14.6	12	-F		C	0059	36		DJ	
VORO	20	0203	0209	0220	N12	W70	.934	16208	14.8	17	1F		C	0209	116		DJ	
GRP76908	20	0052+8	0103+6	0116	N04	E80	.984	16239	26.0	24	-B				30		D	
HOLL	20	0052	0108	0119	N06	E76	.968	16239	25.7	27	-B	2	C		34		DE	
CULG	20	0059	0105	0117	N03	E84	.994	16239	26.3	18	-N		C	0105	50		T	
VORO	20	0100	0103	0110	N04	E90	1.000	16239	26.8	10	-B		C	0103	27		D	
MANI	20	0105E	0109U	0114D	N05	E75	.964	16239	25.7	9D	-B	3	C		20			
909 VORO	20	0058	0108	0111	S28	E04	.574	16224	20.3	13	-N		C	0108	108	1.3	D	ZX
GRP76910	20	0100+7	0101 0108+1	0116	S22	W06	.492	16224	19.6	16	-N				90	1.0		
HOLL	20	0100	0101	0116	S22	W06	.492	16224	19.6	16	-N	2	C		24			
VORO	20	0106	0108	0116	S22	W06	.492	16224	19.6	10	-N		C	0108	108	1.2		
CULG	20	0107	0109	0123	S22	W08	.498	16224	19.4	16	-F		C	0109	80	.9		
GRP76911	20	0109+4	0124+3	0216	S17	E26	.574	16231	22.0	67	-N						EU	
CULG	20	0109	0127	0228	S18	E25	.574	16231	21.9	79	-N		C	0127	110	1.3	U	
VORO	20	0113	0124	0204	S17	E27	.585	16231	22.1	51	1F		C	0124	260	3.2	E	
912 HOLL	20	0118	0119	0121D	S28	E04	.574	16224	20.4	3D	-B	2	C		25			ZX
913 VORO	20	0206	0207	0210	S28	E03	.573	16224	20.3	4	-N		C	0207	45	.5	DJ	ZX
914 VORO	20	0219	0221	0226	S28	E03	.573	16224	20.3	7	-N		C	0221	90	1.1	D	ZX
GRP76915	20	0235+6	0243+1	0255	N04	E83	.992	16239	26.3	20	-B				70		J	
CULG	20	0235	0244	0307	N03	E83	.992	16239	26.3	32	1N		C	0244	100		FJT	
VORO	20	0241	0243	0246	N04	E90	1.000	16239	26.9	5	-B		C	0243	45		DJ	
MANI	20	0245E	0245U	0255D	N05	E76	.968	16239	25.8	10D	-B	3	C		50			
916 CULG	20	0319	0331	0352	S14	E08	.380	16243	20.7	33	-F		C	0331	60	.6		ZX
917 CULG	20	0330	0348	0410	N27	W85	.991	16207	13.8	40	1F		C	0348	60		FI	ZX
GRP76918	20	0506+2	0513+2	0519	N04	E81	.987	16239	26.3	13	1N				70		DJ	
CULG	20	0506	0514	0528	N03	E81	.987	16239	26.3	22	1N		C	0514	70		T	
MANI	20	0508E	0513U	0519D	N05	E75	.964	16239	25.8	11D	-B	3	C		50			
ABST	20	0508	0515	0518	N04	E89	1.000	16239	26.9	10	1N		C	0515	131		DJ	
GRP76919	20	0527+0	0528+1	0540	S16	E34	.652	16231	22.8	13	-N				60	.8	DJV	
CULG	20	0527	0529	0541	S17	E34	.659	16231	22.8	14	-B		C	0529	40	.5		
ABST	20	0527	0528	0539	S16	E34	.652	16231	22.8	12	-N		C	0528	87	1.2	DJV	
GRP76920	20	0655	0701 0722+3	0736	N05	E82	.989	16239	26.4	41	1N				160		AEJZ	
CULG	20	0655	0701	0707	N03	E81	.987	16239	26.4	12	-F		C	0701	50		T	
ISTA	20	0700E		0732	N06	E90	1.000	16239	27.0	32D	1B		V				AB	
ABST	20	0716	0722	0732	N04	E85	.996	16239	26.7	16	2N		C	0716	201		AEJ	
ATHN	20	0723E	0725	0750	N05	E77	.973	16239	26.1	27D	1B	4	C		222		Z	
CATA	20	0725	0725	0740	N05	E85	.995	16239	26.7	15	1B	2	C	0725	112			
MONT	20	0730E	0732	0741	N05	E79	.980	16239	26.2	11D	-N		C	0732			E	

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		CONF.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
GRP76921	20	0706+0	0707+2	0720	S32	E76	.990	16241	26.8	14	-N						CJV	
CULG	20	0706	0709	0713D	S34	E76	.991	16241	26.8	7D	-N		C	0709	40		T	
ABST	20	0706	0707	0720	S31	E76	.990	16241	26.8	14	1N		C	0707	166		OJV	
922 ISTA	20	0728		0739	S16	E35	.663	16231	22.9	11	-N		V				D	ZX
GRP76923	20	0815		0904D	N07	E77	.972	16239	26.1	49	1N						DU	
ISTA	20	0815		0850	N07	E77	.972	16239	26.1	35	1B		V				U	
KHAR	20	0840E		0905D	N12	E77	.970	16239	26.1	25D	-F		P	0853	80		C	
KANZ	20	0855E		0908D	N06	E73	.954	16239	25.8	13D	1N	1						
924 ABST	20	0834	0836	0910	N12	W78	.974	16208	14.5	36	7F		C	0836	87		DJ	ZX
	IMP.1 NO I CATA																	
925 KHAR	20	0848E	0850	0908D	S16	E34	.652	16231	22.9	12D	-N		P	0853	98	1.3	D	ZX
GRP76926	20	0904+4	0912 0916>9	1040	N05	E77	.973	16239	26.2	96	2B				240		EHJOPV	
KHAR	20	0835E	0912	1240D	N05	E78	.976	16239	26.2	245D	3B	*	P	0910	600		CEHOPV	
ABST	20	0904	0920	1000	N05	E80	.983	16239	26.4	56	1N	*	C	0920	175		EJ	
CATA	20	0905	0926	1035	N06	E75	.963	16239	26.0	90	2B	*	C	0926	365			
ATHN	20	0906	0923	1045	N05	E76	.968	16239	26.1	99	2B	*	C		254		FDE	
HONT	20	0908	0916	0920D	N05	E78	.976	16239	26.2	12D	1B	*	C	0916	180			
KANZ	20	0920E	0925	0929D	N03	E77	.973	16239	26.2	9D	1B	*						
927 ABST	20	0936	0938	0950	N12	W78	.974	16208	14.6	14	7F		C	0938	87		DJ	ZX
	IMP.1 NO I CATA																	
928 CATA	20	1055	1105	1105D	N04	E90	1.000	16239	27.2	10D	1F	2	P	1105	84			ZX
GRP76929	20	1109E		1136D	N11	W80	.981	16208	14.5	27	-F							
KHAR	20	1109E		1136D	N10	W80	.982	16208	14.5	27D	-F		P				DT	
KHAR	20	1122E		1122D	N13	W80	.981	16208	14.5		-F	*	P				D	
930 KHAR	20	1116E		1130D	N18	W90	.999	16208	13.7	14D	-F		P	1119			CHT	ZX
931 KHAR	20	1120E		1150D	N27	W90	.999	16207	13.7	38D	-F		P				H	ZX
932 RAMY	20	1141	1148	1322	N07	E72	.948	16239	25.9	101	-B	*	C		70			ZX
GRP76933	20	1142+0	1144+2	1156	S25	W04	.521	16224	20.2	14	-N						E	
RAMY	20	1142	1144	1148	S25	W05	.533	16224	20.1	6	-B	3	C		36			
KHAR	20	1142	1146	1203D	S26	W03	.544	16224	20.3	21D	-F		P	1146	160	2.0	E	
934 KHAR	20	1150E		1200D	N19	W90	.999	16208	13.7	10D	-N		P	1150			H	ZX
GRP76935	20	1235+7	1300	1313	N11	W80	.981	16208	14.5	38	-F							
KHAR	20	1235E		1255D	N10	W85	.994	16208	14.1	20D	-F		P				DT	
RAMY	20	1242	1300	1308	N12	W78	.974	16208	14.7	26	-N	3	C					
KHAR	20	1258E		1317D	N10	W80	.982	16208	14.5	19D	-F		P				T	
GRP76936	20	1307+1	1310+1	1352	N07	E27	.451	16233	22.6	45	-N				90	1.0		
KHAR	20	1307E	1310	1340D	N07	E27	.451	16233	22.6	33D	-F		P	1310	100	1.2		
RAMY	20	1308	1311	1352	N08	E28	.466	16233	22.6	44	-B	3	C		79			
937 RAMY	20	1318	1321	1324	N12	W78	.974	16208	14.7	6	-N	3	C					ZX
938 RAMY	20	1323	1404	1427	N07	E74	.958	16239	26.1	64	-B	3	C				F	ZX
939 RAMY	20	1419	1455	1503	S15	E15	.445	16231	21.7	44	-F	3	C		23			ZX
940 RAMY	20	1527	1531	1531	S15	E15	.445	16231	21.8	4	-F	3	C		29			ZX
GRP76941	20	1545>9	1607+1 1657	1737	S16	E14	.450	16231	21.7	112	-B				160	1.8	U	
RAMY	20	1545	1608	1629	S15	E14	.437	16231	21.7	44	-B	3	C		132		F	
HOLL	20	1604	1607	1805	S16	E14	.450	16231	21.7	121	1B	3	V		197		U	
BIGB	20	1652E	1657	1729	S16	E06	.481	16231	21.2	37D	-N	2	P	1657	120	1.2		
HUAN	20	1703E		1744	S16	E16	.466	16231	21.9	41D	-N	1	P	1705	110	1.2	E	
	20	1600	1602	NO FLARE PATROL														
GRP76942	20	1605>9	1627+2	1639	S30	E72	.979	16241	26.1	34	-N				10			
RAMY	20	1605	1627	1630D	S30	E70	.972	16241	25.9	25D	-N	3	C		14			
HOLL	20	1627	1629	1639	S30	E75	.987	16241	26.3	12	-N	3	C		9			
943 RAMY	20	1618	1618	1630	S12	E42	.717	16240	23.8	12	-N	3	C		26			ZX

OBSERV-ATORY
GRP76944
BIGB
HOLL
HUAN
GRP76945
HUAN
BIGB
HOLL
GRP76946
BIGB
HOLL
947 HUAN
948 HUAN
949 PALE
GRP76950
PALE
HOLL
GRP76951
BIGB
PALE
952 HOLL
953 HOLL
GRP76954
HOLL
BIGB
GRP76955
PALE
HOLL
MANI
CULG
GRP76956
MANI
CULG
957 CULG
958 CULG
959 CULG
960 CULG
961 CULG
GRP76962
CULG
VORO
PALE
963 CULG
964 CULG
GRP76965
CULG
ABST
966 ABST
967 CULG

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OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		CONF.	TYPE	TIME UT	MEAS. AREA Mill of Disk	CORR AREA Sq Deg.		
GRP76944	20	1701+1	1702+4	1717	S22	E51	.845	16240	24.5	16	-N				30	.5	C	
BIGB	20	1701	1706	1719	S23	E51	.849	16240	24.5	18	-N	2	C	1706	30	.5		
HOLL	20	1702	1702	1715D	S18	E50	.822	16240	24.5	13D	-B	3	C		31			
HUAN	20	1703E		1715	S22	F54	.8EE	16240	24.8	12D	-N	1	P	1703	25	.5	C	
GRP76945	20	1725+3	1728+5	1745	S12	E43	.728	16240	24.0	20	-N				40	.6		
HUAN	20	1725	1733	1745	S12	E44	.739	16240	24.0	20	-N	*	C	1733	35	.5		
BIGB	20	1726	1728	1747	S13	E43	.967	16240	24.0	21	-N	2	C	1728	30			
HOLL	20	1728	1729	1743	S12	E41	.70E	16240	23.8	15	-B	*	C		57			
GRP76946	20	1730+1	1731+1	1741	N06	E72	.948	16239	26.1	11	-B				25		E	
BIGB	20	1730	1732	1739	N05	E78	.976	16239	26.6	9	-B	2	C	1732	30		E	
HOLL	20	1731	1731	1742	N07	E66	.910	16239	25.7	11	-B	3	C		20			
947 HUAN	20	1831	1832	1835	N05	E81	.986	16239	26.8	4	-F	1	C	1832	30		E	ZX
948 HUAN	20	1850		1857	S15	E14	.437	16231	21.8	7	-F	1	C				E	ZX
949 PALE	20	1911	1931U	1935	N05	E70	.937	16239	26.0	24	-N	3	C		46		DE	ZX
GRP76950	20	1937+8	1948	2004	N06	E70	.937	16239	26.1	27	-B							
PALE	20	1937	2011U	2014D	N05	E70	.937	16239	26.1	37D	-B	3	C		48		DE	
HOLL	20	1945	1948	1953	N07	E71	.942	16239	26.1	8	-B	3	C		14		F	
GRP76951	20	2110+3	2111+2	2139	S13	E40	.700	16240	23.9	29	-B				50	.7		
BIGB	20	2110	2111	2135	S14	E41	.716	16240	24.0	25	-B	1	P	2111	40	.5		
PALE	20	2113	2113	2142D	S13	E40	.700	16240	23.9	29D	-B	3	C		72			
952 HOLL	20	2121	2121	2130	S26	W11	.5E7	16224	20.1	9	-N	3	C		29			ZX
953 HOLL	20	2228	2251	0033	N07	E80	.983	16239	26.9	125	-N	3	C		55		Y	ZX
GRP76954	20	2231+1	2235+1	2303D	N08	E21	.35E	16233	22.5	32	-N				50	.5	E	
HOLL	20	2231	2235	2340	N09	E21	.357	16233	22.5	69	-B	3	C		67			
BIGB	20	2232	2236	2303	N07	E22	.372	16233	22.6	31	-N	2	C	223E	30	.3	E	
GRP76955	20	2332+8	2347	0004	N06	E64	.895	16239	25.8	32	-B				25	.6		
PALE	20	2332E	2343U	2343D	N07	E62	.879	16239	25.6	11D	-B	*	C		20		FDE	
HOLL	20	2340	2347	2350	N07	E62	.879	16239	25.6	10	-B	*	C		18			
MANI	20	2350E	2350U	0005D	N05	E6E	.925	16239	26.1	15D	-N	*	C		20			
CULG	20	2354E	2354E	0004	N04	E67	.919	16239	26.0	10D	-F	*	P	2354	40	1.0		
GRP76956	20	2351E	2353+5	0018D	S16	E11	.428	16231	21.8	27	-N				30	.3		
MANI	20	2351E	2353	0005D	S15	E12	.421	16231	21.9	14D	-B	3	C		30			
CULG	20	2354E	2358	0018D	S17	E10	.43E	16231	21.7	24D	-F		P	2358	30	.3		
957 CULG	21	0109	0111	0143U	S16	E09	.41E	16231	21.7	34D	-F		C	0111	60	.7		ZX
958 CULG	21	0113	0119	0130	N07	E57	.834	16239	25.3	17	-F		C	0119	30	.5		ZX
959 CULG	21	0114	0132U	0151	S27	W15	.600	16224	19.9	37	-F		C	0132	60	.7	F	ZX
960 CULG	21	0125	0134	0155	S13	E38	.678	16240	23.9	30	-F		C	0134	50	.7		ZX
961 CULG	21	0130	0147	0201	N18	W40	.650	16218	18.1	31	-F		C	0147	90	1.2		ZX
GRP76962	21	0146+1	0150+0	0241	N05	E67	.918	16239	26.1	55	1N				130		J	
CULG	21	0146	0150	0241	N05	E67	.918	16239	26.1	55	1N		C	0150	130	3.3	JT	
VORO	21	0147	0150	0159D	N04	E6E	.925	16239	26.2	12D	1F		C	0150	134		E	
PALE	21	0205E	0206U	0206D	N06	E65	.903	16239	26.0	10	-N	3	C		49		FDE	
963 CULG	21	0202	0205	0221	N18	E02	.19E	16232	21.2	19	-N		C	0205	20	.2		ZX
964 CULG	21	0204	0207	0220	S28	W20	.641	16224	19.6	16	-F		C	0207	20	.2		ZX
GRP76965	21	0512+1	0517+1	0520D	S16	E06	.401	16231	21.7	8	-F						D	
CULG	21	0512	0518	0E31	S17	E07	.421	16231	21.7	79	1F		C	0518	200	2.2		
ABST	21	0513	0517	0520	S16	E0E	.401	16231	21.7	7	-F		C	0517	87	1.0	D	
966 ABST	21	0519	0520	0532	S32	E64	.952	16241	26.8	13	?F		C	0520	157		C	ZX
	IMP.1 NO 1 CULG																	
967 CULG	21	0544	0619	0631D	N30	W25	.544	16222	19.4	47D	?F		P	0619	180	2.1		ZX
	IMP.1 NO 1 HTPR CATA																	

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX LONG. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP DAY	MIN.		CONG	TYPE	TIME UT	MEAS. AREA Millionths of Disk	CORR. AREA Sq. Deg.		
GRP76968	21	0550	0613>9	0658	N17	W40	.647	16218	18.2	68	2B						EU	
CULG	21	0550	0625U	06310	N18	W40	.650	16218	18.2	410	1B		P	0625	340	4.3	U	
HTPR	21	0609E		0655	N17	W40	.647	16218	18.3	460	2N		C	0618	450	5.8	EU	
CATA	21	0610E	0620	0705	N16	W41	.658	16218	18.2	550	2B	2	P	0620	562	7.6		
MANI	21	0611	0613	06450	N15	W38	.617	16218	18.4	340	1B	3	C		200		U	
ATHN	21	0614E	0616	06480	N16	W42	.670	16218	18.1	340	1B	5	C		254		U	
ISTA	21	0615E		0655	N17	W40	.647	16218	18.3	400	3B		V				BU	
WEND	21	0635E		0653C	N17	W41	.66C	16218	18.2	180	-N		C	0641	130	1.9	U	
MONT	21	0642E	0642	07010	N07	W39	.625	16218	18.4	190	1N		C	0642	380			
969 ISTA	21	0715		0730	N13	W90	1.000	16208	14.6	15	?N		V				A	ZX
	IMP.1 NO 1 HTPR CATA MONT																	
GRP76970	21	0837+3	0839+4	0906	N04	E61	.873	16239	25.9	29	-N						EJ	
HTPR	21	0837	0839	0905	N05	E58	.845	16239	25.7	28	-F		C	0839	30	.5	E	
ABST	21	0838	0843	0853	N01	E61	.875	16239	25.9	15	1N		C	0843	174		EJ	
KANZ	21	0839	0847	0911	N03	E62	.882	16239	26.0	32	-B	2					E	
MONT	21	0840	0843	0906	N05	E63	.888	16239	26.1	26	-N		C	0843	60		E	
GRP76971	21	1009+1	1010+0	1015	S14	E32	.616	16240	23.8	6	-F							
HTPR	21	1009	1010	1015	S14	E32	.616	16240	23.8	6	-F		C	1010	20	.2		
CATA	21	1010	1010	1015	S14	E32	.616	16240	23.8	5	-N	2	C	1010	56	.7		
972 HTPR	21	1107	1111	1116	S30	E36	.772		24.2	9	-F		C	1111	20	.2		ZX
973 HTPR	21	1145	1148	1153	S24	W36	.729	16225	18.8	8	-F		C	1148	10	.1		ZX
974 RAMY	21	1146	1206	1220	S31	E56	.910	16241	25.7	34	-N	3	C		30		H	ZX
GRP76975	21	1300+4	1301+4	1319	S15	E02	.374	16231	21.7	19	-F				30	.3	E	
HTPR	21	1300	1301	1315	S15	W01	.373	16231	21.5	15	-F		C	1301	20	.2	E	
MCMA	21	1300	1301	13190	S16	E02	.390	16231	21.7	190	-N		C	1301	30	.3	E	
LVOV	21	1304	1305	1320	S13	E03	.344	16231	21.8	16	-F		C	1305	150	1.6	D	
976 RAMY	21	1301	1303	1315	S30	E58	.918	16241	25.9	14	-N	3	C		19			ZX
977 LVOV	21	1304	1305	1320	N06	E58	.844	16239	25.9	16	?F		C	1305	150	2.8	DJ	ZX
	IMP.1 NO 1 RAMY ZURI MCMA HTPR																	
GRP76978	21	1317	1334+0 1340+2	1354	S25	W26	.652	16224	19.6	37	-N				40	.5	EKL	
MCMA	21	1317	1340	1410	S26	W29	.686	16224	19.4	53	-N	*	C	1340	70	1.0	EKL	
HUAN	21	1321E		1328	S25	W27	.660	16224	19.5	70	-F	*	P	1322	20	.2	D	
HTPR	21	1332	1334	1343	S24	W28	.659	16224	19.5	11	-F	*	C	1334	20	.2	E	
HUAN	21	1333		1351	S25	W26	.652	16224	19.6	18	-F	*	C	1333	35	.4	E	
HOLL	21	1334	1334	1437	S22	W28	.641	16224	19.5	63	-B	*	C		46		FDE	
RAMY	21	1342	1342	1351	S25	W19	.600	16224	20.1	9	-N	3	C		23			
MCMA	21	1343	1350	1358	S32	W17	.671	16224	20.3	15	-F		C	1350	20	.3	D	
979 MCMA	21	1325	1332	1412	S16	E02	.390	16231	21.7	47	-N		C	1332	40	.4	E	ZX
GRP76980	21	1404+0	1404+3	1411	S27	W28	.687	16224	19.5	7	-N						D	
ZURI	21	1404E	1404	1410	S27	W28	.687	16224	19.5	60	-N	*	P	1404	60	.9		
LVOV	21	1404	1407	1412	S28	W28	.696	16224	19.5	8	1F	*	C	1407	150	2.2	D	
GRP76981	21	1416+2	1417+1	1428	S24	W27	.651	16224	19.6	12	-N				50	.6	E	
MCMA	21	1416	1417	1425	S26	W30	.694	16224	19.3	9	-N	*	C	1417	50	.7	E	
BIGB	21	1416	1417	1430	S23	W28	.658	16224	19.5	14	-N	*	C	1417	40	.5		
ZURI	21	1418	1418	1434	S24	W27	.651	16224	19.6	16	-N	*	C	1418	70	1.0		
HUAN	21	1418E		1421	S24	W26	.642	16224	19.6	30	-F	*	P				E	
982 HOLL	21	1508	1542	1547	N16	W47	.730	16218	18.1	39	-N	3	C		17			ZX
983 HOLL	21	1526	1526	1539	N07	E58	.844	16239	26.0	13	-N	3	C		15			ZX
GRP76984	21	1548+1	1549+1	1559	S25	W26	.652	16224	19.7	11	-N				40	.5	E	
HTPR	21	1548	1550	1600	S24	W24	.626	16224	19.9	12	-N	*	C	1550	50	.6	E	
HUAN	21	1548	1549	1554	S25	W26	.652	16224	19.7	6	-N	*	C	1549	45	.6	E	
MCMA	21	1548	1549	1557	S26	W31	.702	16224	19.3	9	-N		C	1549	50	.7	E	
HOLL	21	1549	1550	1603	S26	W21	.625	16224	20.1	14	-B	*	C		43			
BIGB	21	1549	1550	1601	S23	W28	.650	16224	19.6	12	-N	2	C	1550	30	.4		
GRP76985	21	1630+0	1645+0	1710	S15	00	.373	16231	21.7	40	-F				40	.4	E	
MCMA	21	1630	1645	1712	S16	W01	.389	16231	21.6	42	-N		C	1645	50	.6	E	
HTPR	21	1630	1645	1710	S14	W01	.357	16231	21.6	40	-F		C	1645	30	.3	E	
HUAN	21	1630		16410	S15	E01	.373	16231	21.8	110	-F	1	P				E	
RAMY	21	1654E	1654	1703	S15	E01	.373	16231	21.8	9	-N	3	C		24			

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		CONF.	TYPE	TIME UT	MEAS. AREA Millionths of Disk	CORR. AREA Sq. Deg.	
GRP76986	21	1640+8	1652+4 1702	1728	N07	E55	.815	16239	25.8	48	-N				80	1.4	E
HOLL	21	1648	1652	1735	N08	E54	.804	16239	25.7	55	-B	3	C		75		OE
HTPR	21	1643	1656	1722	N07	E51	.773	16239	25.5	39	-N		C	1656	80	1.2	E
MCMA	21	1644	1702	1730D	N06	E57	.835	16239	26.0	46D	1N		C	1702	125	2.2	E
HUAN	21	1646E		1705D	N08	E55	.814	16239	25.8	19D	-N	1	P	1655	60	1.0	E
BIGB	21	1648	1656	1733	N07	E55	.815	16239	25.8	45	-B	2	C	1656	50	.9	
RAMY	21	1654E	1656U	1719	N06	E57	.835	16239	26.0	25D	-B	3	C		110		F
GRP76987	21	1734+2	1735+2	1748	S15	W01	.373	16231	21.7	14	-N				50	.5	E
BIGB	21	1734	1735	1749	S15	E00	.373	16231	21.7	15	-N	2	C	1735	30	.3	
MCMA	21	1735	1735	1753	S16	W01	.389	16231	21.7	18	-N		C	1735	50	.6	E
HOLL	21	1735	1736	1749	S14	W01	.357	16231	21.7	14	-B	3	C		60		OE
HUAN	21	1736	1737	1747	S15	E01	.373	16231	21.8	11	-N	1	C	1737	50	.5	E
PALE	21	1736	1736	1742	S16	W01	.389	16231	21.7	6	-N	3	C		43		OE
GRP76988	21	1748+4	1751+2	1803	S24	W29	.668	16224	19.6	15	-N				70	.9	E
BIGB	21	1748	1751	1805	S23	W30	.668	16224	19.5	17	-N	2	C	1751	70	.8	
MCMA	21	1748	1751	1803	S23	W31	.676	16224	19.4	15	-N		C	1751	50	.7	E
HUAN	21	1749	1752	1803	S25	W28	.668	16224	19.6	14	-N	2	C	1752	100	1.3	E
HOLL	21	1749	1753	1802	S26	W22	.632	16224	20.1	13	-B	3	C		81		
PALE	21	1752	1753	1759	S24	W30	.676	16224	19.5	7	-N	3	C		31		OE
GRP76989	21	1800+1	1802+1	1818	S15	00	.373	16231	21.7	18	-N				45	.5	E
MCMA	21	1800	1802	1818	S16	W02	.390	16231	21.6	18	-N		C	1802	50	.6	E
HUAN	21	1800		1807D	S15	E01	.373	16231	21.8	7D	-N	1	P	1804	50	.5	E
PALE	21	1801	1803	1816	S15	W01	.373	16231	21.7	15	-N	3	C		43		OE
BIGB	21	1801	1802	1819	S15	E00	.373	16231	21.8	18	-B	2	C	1802	40	.4	
GRP76990	21	1826+0	1828+0	1831	N04	E57	.837	16239	26.0	5	-N				20	.4	D
MCMA	21	1826E	1828	1831	N04	E57	.837	16239	26.0	5D	-N		C	1828	20	.4	D
BIGB	21	1826	1828	1831	N05	E57	.836	16239	26.0	5	-B	2	C	1828	20	.4	D
GRP76991	21	1934+2	1935+2	1946	S15	W02	.374	16231	21.7	12	-N				30	.3	
BIGB	21	1934	1935	1951	S15	W03	.376	16231	21.6	17	-F	2	C	1935	30	.3	
HOLL	21	1935	1936	1946	S14	W02	.358	16231	21.7	11	-B	3	C		52		
PALE	21	1936	1937	1940	S15	W02	.374	16231	21.7	4	-N	3	C		22		OE
992 BIGB	21	1935	1936	1945	N05	E56	.826	16239	26.0	10	-N	2	C	1936	20	.4	ZX
993 BIGB	21	2056	2057	2109	N05	E57	.836	16239	26.1	13	-N	2	C	2057	30	.6	ZX
994 BIGB	21	2057	2111	2133	S32	E56	.913	16241	26.1	36	-N	2	C	2111	30	.6	ZX
995 BIGB	21	2149	2152	2202	N05	E57	.836	16239	26.2	13	-F	2	C	2152	30	.6	ZX
996 BIGB	21	2153	2156	2207	S14	E26	.548	16240	23.9	14	-F	2	C	2156	20	.2	ZX
GRP76997	21	2221	2229+0	2240	N04	E54	.807	16239	26.0	19	-F				50	.9	
BIGB	21	2221	2229	2236	N04	E55	.817	16239	26.1	15	-N	2	C	2229	70	1.2	
CULG	21	2224E	2229	2244	N04	E54	.807	16239	26.0	20D	-F		P	2229	40	.7	T
GRP76998	21	2231	2254	0213	S27	W22	.643	16224	20.3	222	-N						
PURP	22	0008		0022	S26	W19	.612	16224	20.6	14	1N		P				
PURP	22	0155E	0155	0213	S28	W25	.675	16224	20.2	18D	1N		P				
CULG	21	2231	2354U	0156U	S26	W23	.648	16224	20.2	205D	-N		C	2354	140	1.8	T
HOLL	21	2256E	2256U	0116D	S27	W21	.636	16224	20.4	140D	-N	3	C		65		
999 BIGB	21	2232	2239	2245	S32	E55	.908	16241	26.1	13	-N	2	C	2239	30	.5	ZX
GRP77000	21	2300+7	2308+1	2325	N05	E55	.816	16239	26.1	25	-N				80	1.4	
HOLL	21	2300	2308	0034	N05	E54	.806	16239	26.0	94	-B	3	C		107		OE
CULG	21	2300	2309	2325U	N05	E55	.816	16239	26.1	25D	-N		C	2309	90	1.5	T
BIGB	21	2307	2308	2319	N04	E55	.817	16239	26.1	12	-N	2	C	2308	80	1.4	
PALE	21	2313E	2313U	2324	N06	E55	.833	16239	26.1	11D	-N	3	C		30		F
GRP77001	21	2332>9	2356+5	0029	N05	E54	.806	16239	26.0	57	-N				50	.9	F
BIGB	22	0000	0001	0013	N04	E55	.817	16239	26.1	13	-N	*	C	0001	30	.3	
MANI	22	0001E	0001U	0029D	N06	E55	.815	16239	26.1	28D	-B	*	C		50		F
CULG	21	2332	2356U	2359D	N04	E53	.797	16239	26.0	27D	-N	*	P	2356	60	1.0	T
PALE	21	2351	2400	0030D	N06	E54	.823	16239	26.0	39D	-B	3	C		40		F
GRP77002	22	0037+7	0042+7	0116	N06	E54	.805	16239	26.1	39	-N				50	.9	
HOLL	22	0037	0045	0116D	N06	E53	.795	16239	26.0	39D	-B	2	C		69		
MANI	22	0042E	0042	0047C	N06	E55	.815	16239	26.2	7D	-B	3	C		60		
CULG	22	0043	0049	0122	N05	E55	.816	16239	26.2	39	-F		C	0049	60	1.0	T
PALE	22	0044	0044	0052	N06	E54	.805	16239	26.1	8	-B	3	C		28		

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX LON. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		CONF.	TYPE	TIME UT	MEAS AREA Mill of Disk	CORR AREA Sq Deg	
3 HOLL	22	0104	0108	0116	S12	E24	.507	16240	23.8	12	-N	2	C		31		ZX
4 CULG	22	0123	0125	0137	S18	E30	.625	16240	24.3	14	-F		C	0125	80	1.0	T ZX
5 PURP	22	0140	0155	0156	N16	W08	.288	16232	21.5	16	-9		P				ZX
6 CULG	22	0154	0203	0236U	S25	W37	.745	16225	19.3	420	?N		P	0203	180	2.7	FT ZX
	IMP.1 NO 1 EIGB			PURP													
GRP77007	22	0155	0219	0254	N05	E51	.774	16239	25.9	59	1N						
			0237														
PURP	22	0155	0219	0248	N05	E52	.785	16239	26.0	53	1N		C		264	4.2	
PALE	22	0229E	0255	0300D	N06	E51	.773	16239	25.9	310	-N	3	C		57		FDE
PALE	22	0229E	0237	0300D	N06	E51	.773	16239	25.9	310	-N	3	C		37		FDE
GRP77008	22	0227	0229+2	0256	S25	W26	.653	16224	20.2	29	-F						
CULG	22	0227	0231	0256	S24	W27	.651	16224	20.1	29	-F		C	0231	30	.4	
PALE	22	0229E	0229U	0253D	S26	W26	.663	16224	20.2	240	-N	3	C		122		DE
GRP77009	22	0311>9	0418	0520C	N05	E51	.774	16239	26.0	129	1F						EKV
			0501														
PURP	22	0311	0418	0607	N05	E52	.785	16239	26.0	176	1F		P		302	4.6	K
ABST	22	0500	0501	0520	N05	E50	.763	16239	26.0	20	1N		C	0501	174	2.4	EV
18 HTPR	22	0555E		0605	S21	E90	1.000	16245	29.0	100	-F		C	0555	30		ZX
GRP77011	22	0615+0	0624	0715	N05	E52	.785	16239	26.2	60	-N						
			0640														
HTPR	22	0615	0648	0715	N05	E44	.752	16239	25.9	60	-F		C	0640	20	.3	
PURP	22	0615	0624	0713	N05	E54	.806	16239	26.3	58	1B		P				
WEND	22	0704E		0733D	N05	E52	.785	16239	26.2	290	-F		C	0705	40	.7	
12 HTPR	22	0619	0620	0630	S13	W08	.366	16231	21.7	11	-F		C	0620	10	.1	ZX
GRP77013	22	0909+4	0913+3	0923	S13	W11	.386	16231	21.6	14	-F				60	.6	E
KANZ	22	0909	0916	0928	S13	W11	.386	16231	21.6	19	-F	2					
KHAR	22	0910E		0920D	S14	W11	.400	16231	21.6	100	-F		P	0910	100	1.1	ET
HTPR	22	0912	0914	0922	S13	W09	.372	16231	21.7	10	-F		C	0914	20	.2	E
MONT	22	0912	0914	0938	S13	W11	.386	16231	21.6	26	-F		C	0914	50		E
ZURI	22	0913	0913	0919	S13	W11	.386	16231	21.6	6	-N		C	0913	80	.9	
GRP77014	22	0914+3	0920+4	0934	S21	E86	1.000	16245	28.8	20	1N				60		AEHC
KHAR	22	0914E	0920	1000D	S21	E85	.999	16245	28.8	460	1N		P	0922			EHOT
MONT	22	0915	0923	0932	S21	E90	1.001	16245	29.1	17	-B		C	0923	70		
KANZ	22	0916	0924	0932	S23	E85	.999	16245	28.8	16	-B	2					
HTPR	22	0917	0924	0931	S21	E88	1.000	16245	29.0	14	-N		C	0924	80		A
ZURI	22	0917	0923	0927	S21	E83	.998	16245	28.6	10	1N		C	0923	100		
CATA	22	0935E	0935	0940	S22	E85	.999	16245	28.8	50	1N	1	P	0935	84		
GRP77015	22	1030+3	1033+2	1048	S17	W10	.437	16231	21.7	18	-F				60	.7	D
KHAR	22	1030E	1033	1050D	S18	W11	.457	16231	21.6	200	-F		P	1037	60	.7	DT
ZURI	22	1033	1035	1045	S17	W10	.437	16231	21.7	12	-N		C	1035	60	.7	
GRP77016	22	1044+5	1052+6	1116	S21	E84	.999	16245	28.7	34	-N						AEH
HTPR	22	1044	1052	1115	S15	E85	.999	16245	28.8	31	-F		C	1052	40		AE
ZURI	22	1047	1053	1053D	S21	E83	.998	16245	28.7	60	1N		P	1053	180		
KANZ	22	1049	1053	1113	S23	E80	.994	16245	28.5	24	-B	2					
KHAR	22	1057E	1058	1120D	S21	E85	.999	16245	28.8	230	-F		P	1109			H
CATA	22	1105E	1105	1135	S20	E90	1.001	16245	29.2	300	1N	1	P	1105	140		
17 TELV	22	1104	1112	1220	S15	W27	.568	16243	20.4	76	?F	3	C	1112	240	2.8	S ZX
	IMP.1 NO 1 HTPR			KANZ	CATA												
18 KHAR	22	1122E		1202D	N08	E53	.794	16239	26.4	480	-F		P	1128	90	1.6	E ZX
19 KHAR	22	1135E		1138D	S14	W13	.416	16231	21.5	30	-F		P	1138	40	.4	C ZX
GRP77020	22	1210	1227+2	1239	S32	W29	.740	16224	20.3	28	-F						E
HTPR	22	1210	1227	1238	S35	W30	.772	16224	20.3	28	-F		C	1227	30	.4	
KHAR	22	1215E	1229	1230D	S30	W29	.722	16224	20.3	150	-F		P	1229	100	1.5	CE
GRP77021	22	1259+1	1303+1	1310	S32	W30	.747	16224	20.3	11	-F				35	.5	C
HCMA	22	1259	1304	1310	S30	W30	.729	16224	20.3	11	-N		C	1304	35	.5	D
HTPR	22	1300	1303	1309	S35	W31	.778	16224	20.2	9	-F		C	1303	30	.4	
22 HOLL	22	1342	1344	1356	S25	W42	.786	16224	19.4	14	-N	3	C		21		ZX

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill of Disk	CORR AREA Sq. Deg.	
GRP77023	22	1342+2	1344+4	1355	S13	W13	.403	16231	21.6	13	-N				40	.4	E
HTPR	22	1342	1344	1355	S13	W12	.394	16231	21.7	13	-F		C	1344	40	.4	E
MCMA	22	1343E	1348	1352D	S12	W14	.399	16231	21.5	9D	-N		C	1348	50	.6	E
HOLL	22	1344	1347	1355	S13	W13	.403	16231	21.6	11	-B	3	C		41		
24 BIGB	22	1513	1514	1538	N18	W59	.852	16218	18.2	25	-F	3	C	1514	40	.8	ZX
GRP77025	22	1546+2	1549+2	1555	S21	E87	1.000	16253	29.2	9	-N				60		A
HTPR	22	1546	1549	1555	S15	E88	1.000	16253	29.3	9	-N		C	1549	60		
BIGB	22	1547	1549	1555	S22	E85	.999	16253	29.0	8	-N	3	C	1549	80		A
HUAN	22	1548	1551	1557	S21	E87	1.000	16253	29.2	9	-N	1	C	1551	30		
GRP77026	22	1641+0	1642+0	1648	S25	W42	.786	16224	19.5	7	-N				30	.5	C
HOLL	22	1641	1642	1646	S26	W34	.727	16224	20.1	5	-B	3	C		38		
BIGB	22	1641	1642	1642D	S23	W43	.784	16224	19.5	1D	-N	3	P	1642	30	.4	
HUAN	22	1644E		1650	S25	W42	.786	16224	19.5	6D	-F	1	P	1645	20	.3	D
GRP77027	22	1722+2	1727+5	1807	N06	E47	.728	16239	26.2	45	-N				40	.6	
BIGB	22	1722	1727	1807	N05	E47	.729	16239	26.2	45	-N	3	C	1727	40	.6	
HUAN	22	1724		1750	N06	E47	.728	16239	26.3	26	-F	1	P	1735	55	.8	E
PALE	22	1726E	1732	1857D	N06	E44	.691	16239	26.0	91D	-N	3	C		32		FDE
GRP77028	22	1749+7	1754+3	1803	S14	E18	.462	16240	24.1	14	-N				30	.3	
HUAN	22	1749		1759	S14	E19	.472	16240	24.2	10	-F	1	C				D
BIGB	22	1753	1754	1803	S13	E18	.451	16240	24.1	10	-N	3	C	1754	40	.4	
PALE	22	175E	1757	1857D	S14	E15	.423	16240	23.9	61D	-N	3	C		23		FDE
GRP77029	22	1850+3	1857+1	1948	N07	E40	.639	16239	25.8	58	-B				50	.7	
HOLL	22	1850	1858	1947	N08	E40	.638	16239	25.8	57	-B	*	C		61		FDE
RAMY	22	1851	1857	1949	N06	E42	.666	16239	25.9	58	-B	*	C		51		F
HUAN	22	1853		1932	N08	E40	.638	16239	25.8	39	-N	*	C	1904	35	.4	
PALE	22	1912E	1912U	2033D	N07	E39	.625	16239	25.7	81D	-B	*	C		52		
GRP77030	22	2134>9	2200+4	2214	S24	W45	.806	16224	19.5	40	-F				60	1.0	
CULG	22	2134	2204	2215	S23	W46	.809	16224	19.4	41	-N		C	2204	80	1.4	
BIGB	22	2154	2200	2212	S25	W45	.811	16224	19.5	18	-F	3	C	2200	40	.6	
GRP77031	22	2155	2158 2215	2243	N16	E50	.763	16238	26.7	48	-F						G
BIGB	22	2155	2158	2238	N15	E50	.762	16238	26.7	43	-F	2	C	2158	40	.6	G
CULG	22	2202E	2215U	2247	N18	E50	.765	16238	26.7	45D	-F		C	2215	40	.6	
32 BIGB	22	2215	2219	2235	N05	E43	.679	16239	26.2	20	-N	2	C	2219	20	.3	ZX
GRP77033	22	2248+0	2249+1	2308	S35	E51	.897	16241	26.8	20	-F						
BIGB	22	2248	2249	2306	S35	E51	.897	16241	26.8	18	-F	2	C	2249	20	.3	
CULG	22	2248	2250	2310	S36	E51	.901	16241	26.8	22	-F		C	2250	60	1.3	
GRP77034	22	2300>9	2308 2400+0	0034	N05	E54	.806	16239	27.0	94	-B				50	.9	
HOLL	22	2300	2400	0034	N05	E54	.806	16239	27.0	94	-B	3	C		65		DE
HOLL	22	2300	2308	0034	N05	E54	.806	16239	27.0	94	-B	3	C		107		DE
PALE	22	2351	2400	0030D	N06	E54	.805	16239	27.0	39D	-B	3	C		40		F
35 CULG	22	2311	2313	2321	S15	E08	.396	16240	23.6	10	-F		C	2313	50	.5	ZX
GRP77036	22	2333+0	2334+1	2343	S12	W33	.614	16243	20.5	10	-B						G
CULG	22	2333	2335	2346	S12	W34	.626	16243	20.4	13	-B		C	2335	40	.5	
HOLL	22	2333	2334	2336D	S14	W29	.582	16243	20.8	3D	-B	3	V		92		
BIGB	22	2333	2334	2340	S12	W33	.614	16243	20.5	7	-N	2	C	2334	20	.2	G
GRP77037	22	2336+5	2350+3	0010	S22	E75	.981	16245	28.6	34	1N				100		G
CULG	22	2336	2351	0010U	S22	E76	.984	16245	28.7	34D	1B		C	2351	140		G
BIGB	22	2341	2350	0000D	S22	E75	.981	16245	28.6	19D	-N	2	P	2350	70		
HOLL	22	2353	2353	0010	S19	E73	.972	16245	28.5	17	1N	3	C				
38 CULG	22	2357	2400	0007	S14	E11	.400	16240	23.8	10	-F		C	2400	30	.3	ZX
GRP77039	23	0125	0139	0153	S15	E13	.430	16240	24.0	28	-F				50	.5	D
CULG	23	0125	0139	0154	S15	E13	.430	16240	24.0	29	-F		C	0139	30	.3	
VORO	23	0139E		0152	S16	E14	.451	16240	24.1	13D	-N		P	0140	72	.8	D
GRP77040	23	0209	0214	0221	S25	W39	.762	16224	20.2	12	-N				130	2.0	
CULG	23	0209	0214	0223	S25	W40	.778	16224	20.1	14	-N		C	0214	90	1.4	F
VORO	23	0211E		0219	S26	W38	.760	16224	20.2	8D	1F		P	0214	179	2.8	CE
41 CULG	23	0215	0217	0225	N05	E41	.654	16239	26.2	10	-F		C	0217	30	.4	ZX

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		CONG.	TYPE	TIME UT	MEAS. AREA Mill of Disk	CORR AREA Sq. Deg.		
42 PALE	23	0307	0312	0319	N06	E42	.666	16239	26.3	12	-N	3	C		63		FDE	ZX
43 CULG	23	0339	0358	0414	S31	W36	.780	16224	20.5	35	-N		C	0358	60	1.0	F	ZX
44 CULG	23	0407	0408	0423	N16	E42	.741	16238	26.8	16	-N		C	0408	40	.6		ZX
45 CULG	23	0441	0442	0449	S23	W51	.849	16224	19.4	8	-N		C	0442	30	.6		ZX
46 CULG	23	0442	0446	0459	S36	E49	.890	16241	26.9	17	-F		C	0446	30	.7		ZX
47 CULG	23	0504	0508	0510	S30	W40	.802	16224	20.2	6	-F		C	0508	20	.3		ZX
48 CULG	23	0513	0517	0537	N16	E47	.729	16238	26.7	24	-F		C	0517	40	.6		ZX
GRP77049	23	0534>9	0548+5	0611	N05	E39	.627	16239	26.2	37	-N						FJ	
CULG	23	0534	0553	0614	N06	E38	.612	16239	26.1	40	-B		C	0553	80	1.0	F	
ABST	23	0545	0551	0600	N05	E40	.640	16239	26.2	15	1N		C	0551	174	2.4	EJ	
HTPR	23	0546E		0610	N05	E37	.600	16239	26.0	240	-F		C	0552	40	.5	F	
PURP	23	0548E	0548	0611	N05	E43	.679	16239	26.5	230	-F		C					
GRP77050	23	0804	0838 0844	0855	N08	E48	.738	16239	26.9	51	-N						K	
PURP	23	0804	0838	0855	N08	E48	.738	16239	26.9	51	-N		C				K	
PURP	23	0804	0844	0855	N08	E48	.738	16239	26.9	51	-N		C					
GRP77051	23	0845+2	0848+3	0858	S23	W51	.849	16224	19.5	13	-N						E	
MONT	23	0845	0848	0857	S23	W52	.857	16224	19.5	12	-N		C	0848	70		E	
KANZ	23	0847	0851	0859	S24	W51	.853	16224	19.5	12	-N	2						
GRP77052	23	0907+3	0918 0925	0946	S14	E08	.371	16240	23.8	39	-F							
HTPR	23	0907	0925	0946	S15	E08	.387	16240	23.8	39	-F		C	0925	20	.2	E	
ZURI	23	0910	0910	0911D	S13	E07	.361	16240	23.9	10	-F		P	0910	60	.7		
KHAR	23	0910E		0928D	S14	E05	.367	16240	23.8	180	-N		P	0917	110	1.2	BD	
53 KHAR	23	0948E		0957D	S32	E34	.774	16241	26.0	90	-F		P	0948			D	ZX
GRP77054	23	1213+1	1213+4	1233	N06	E35	.570	16239	26.1	20	-N							
RAMY	23	1213	1213	1241	N07	E36	.584	16239	26.2	28	-B	3	C		78		F	
LVOV	23	1214	1217	1225	N06	E35	.570	16239	26.1	11	1F		C	1217	200	2.5	C	
GRP77055	23	1243+1	1250+9 1332	1451	N07	E29	.481	16239	25.7	128	1N				220	2.6	EJUZ	
LVOV	23	1243	1251	1448	N06	E30	.497	16239	25.8	125	2N		C	1307	450	5.3	EJ	
RAMY	23	1244	1250	1449	N07	E29	.481	16239	25.7	125	1B	3	C		223		Z U	
HUAN	23	1244	1259	1454	N05	E30	.498	16239	25.8	130	1N	2	C	1259	220	2.6	EU	
WEND	23	1329E		1419D	N08	E29	.481	16239	25.7	50D	1N		P	1329	180	2.2	B	
HOLL	23	1331E	1332	1451	N08	E34	.555	16239	26.1	80D	-B	3	C		134			
KANZ	23	1346E		1414D	N07	E28	.466	16239	25.7	28D	-N	1						
BIGB	23	1433E	1433U	1458D	N09	E28	.466	16239	25.7	25D	-F	2	P	1433	40	.5		
56 HUAN	23	1458	1459	1500	S32	E36	.787	16241	26.3	2	-F	1	C	1459	20	.3	D	ZX
GRP77057	23	1507+1	1509+5	1523	N06	E35	.570	16239	26.3	16	-N				40	.5	F	
HUAN	23	1507		1524	N06	E35	.570	16239	26.3	17	-F	1	C	1512	30	.3		
HOLL	23	1508	1509	1523	N05	E33	.543	16239	26.1	15	-N	3	C		51		F	
KANZ	23	1508E	1514	1521	N06	E37	.599	16239	26.4	130	-N	1					F	
58 BIGB	23	1756	1757	1835	S13	W30	.586	16231	21.5	39	-F	3	C	1757	30	.4		ZX
GRP77059	23	1801>9	1804 1812	1834	N25	W55	.824	16229	19.6	33	-F							
BIGB	23	1801	1804	1837	N25	W56	.832	16229	19.6	36	-F	3	C	1804	60	1.1		
HOLL	23	1811	1812	1831	N26	W54	.816	16229	19.7	20	-N	3	C		36			
60 BIGB	23	1833	1834	1838	S36	W43	.857	16224	20.5	5	-F	3	C	1834	30	.4		ZX
GRP77061	23	1838+1	1839+1	1845	S35	W43	.851	16224	20.6	7	-B				20	.4	D	
HUAN	23	1838	1840	1844	S35	W43	.851	16224	20.6	6	-N	2	C	1840	25	.4	D	
BIGB	23	1838	1839	1840D	S35	W41	.839	16224	20.7	20	-B	3	P	1839	20	.3	D	
HOLL	23	1839	1839	1845	S25	W50	.850	16224	20.8	6	-B	3	C		21			
GRP77062	23	1935+0	1936+0	1940	N05	E32	.528	16239	26.2	5	-F				35	.4		
HUAN	23	1935	1936	1938	N05	E32	.528	16239	26.2	3	-F	1	C	1936	30	.3		
BIGB	23	1935	1936	1942	N05	E32	.528	16239	26.2	7	-N	3	C	1936	40	.5		
63 CULG	23	2212	2222	2239	N24	W61	.872	16229	19.4	27	-N		C	2222	30	.6		ZX

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OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		CONF.	TYPE	TIME UT	MEAS. AREA Mill of Disk	CORR. AREA Sq. Deg.		
GRP77064	23	2235+0	2237+0	2244	S31	E30	.738	16241	26.2	9	-N						E	
VORO	23	2235	2237	2244	S30	E31	.737	16241	26.3	9	-N		C	2237	108	1.5	E	
CULG	23	2235	2237	2241D	S32	E30	.747	16241	26.2	60	-N		P	2237	40	.6	F	
	23	2250	2251	NO FLARE PATROL														
65 HOLL	23	2300	2400	0034	N05	E54	.806		28.0	94	-B	3	C		65		DE	ZX
GRP77066	23	2301>9	2325 2335	0029	N06	E32	.527	16239	26.4	88	1N				210	2.5		
CULG	23	2301	2335	0029	N06	E32	.527	16239	26.4	88	1B		C	2335	260	3.0		
BIGB	23	2316	2325D	2359D	N07	E32	.526	16239	26.4	43D	-N	3	P	2325	150	1.8		
HOLL	23	2326E	2326U	2353D	N05	E28	.48E	16239	26.1	27D	-B	3	C				F	
VORO	23	2334E		2334D	N07	E32	.526	16239	26.4		-N		P	2334	170	2.0	E	
67 HOLL	23	2333	2334	0009	S12	W33	.614	16231	21.5	36	-B	3	C		92			ZX
GRP77068	24	0106>9	0119 0129	0140	N17	E37	.608	16238	26.8	34	-N							
CULG	24	0106	0119	0141	N18	E37	.611	16238	26.8	35	-N		C	0119	50	.6	T	
PALE	24	0122	0129	0138	N17	E37	.608	16238	26.8	16	-N	3	C		24		DE	
69 CULG	24	0142	0145	0157	S17	W31	.628	16231	21.7	15	-F		C	0145	30	.4		ZX
70 CULG	24	0159	0209	0226	S16	W01	.391	16240	24.0	27	-F		C	0209	60	.6	LJ	ZX
71 PALE	24	0209	0215	0404	N18	E36	.598	16238	26.8	115	-N	3	C		58			ZX
72 PURP	24	0306	0307	0332	N05	E25	.422	16239	26.0	26	-N		P					ZX
73 CULG	24	0317	0320	0331	S33	E27	.738	16241	26.2	14	-N		C	0320	50	.8		ZX
	24	0335	0340	NO FLARE PATROL														
74 CULG	24	0425	0430	0504	N06	E70	.937	16246	29.4	39	-N		C	0430	50			ZX
75 CULG	24	0426	0434	0509	S18	W33	.657	16231	21.7	43	-N		C	0434	30	.4		ZX
76 CULG	24	0432	0434	0456	N18	E34	.572	16238	26.7	24	-N		C	0434	40	.5	T	ZX
77 CULG	24	0457	0458	0505	S33	E27	.738	16241	26.2	8	-F		C	0458	30	.4		ZX
78 CULG	24	0521	0523	0527	S25	W53	.872	16224	20.2	6	-F		C	0523	30	.6		ZX
GRP77079	24	0547	0615+1	0627	S22	E56	.883	16245	28.4	40	-N						G	
CULG	24	0547	0616	0633	S23	E5[illegible]	.886	16245	28.4	46	-F		C	0616	60	.8	G	
YUNN	24	0615E	0615	0620	S22	E56	.883	16245	28.5	5D	1N		C		161			
GRP77080	24	0631+4	0633+2	0638	S33	E2[illegible]	.732	16241	26.2	7	-N				50	.7	E	
HTPR	24	0631	0633	0636	S34	E28	.753	16241	26.4	5	-N		C	0633	40	.5	E	
CULG	24	0632	0633	0638	S33	E2E	.732	16241	26.2	6	-N		C	0633	40	.6		
CATA	24	0635	0635	0640	S33	E2E	.732	16241	26.2	5	-B	2	C	0635	84	1.2		
81 CULG	24	0650	0652	0706	S12	W06	.341	16240	23.8	16	-F		C	0652	20	.2		ZX
GRP77082	24	0651+9	0659+3	0718	N24	W66	.908	16229	19.3	27	-N				30		D	
CULG	24	0651	0702	0711D	N24	W65	.902	16229	19.4	20D	-B		C	0702	30	.7		
ABST	24	0656	0659	0715	N24	W66	.908	16229	19.3	19	1N		C	0659	87		D	
HTPR	24	0658	0700	0715	N24	W65	.902	16229	19.4	17	-N		C	0700	20	.4		
BUCA	24	0700		0720	N25	W68	.921	16229	19.2	20	-B		C	0702	32	.8	D	
CATA	24	0700	0700	0720	N24	W66	.908	16229	19.3	20	-N	2	C	0700	28			
83 KHAR	24	0852E		0905D	N27	E12	.391	16237	25.3	130	-F		P	0852	90	1.0	E	ZX
GRP77084	24	0945+2	0948+1	1030	S29	E26	.693	16241	26.4	45	-F				30	.4	D	
KHAR	24	0945E	0948	1000D	S29	E26	.693	16241	26.4	15D	-F		P	0948	40	.6	D	
HTPR	24	0947	0949	1030	S29	E27	.700	16241	26.4	43	-F		C	0949	20	.2		
85 KHAR	24	1050E		1115D	S29	E26	.693	16241	26.4	25D	-F		P	1054	50	.7	BL	ZX
86 KHAR	24	1152E	1153	1200D	S30	E21	.671	16241	26.1	8D	-F		P	1156	50	.7	D	ZX
GRP77087	24	1156+6	1203+2 1212	1245	N05	E25	.422	16239	26.4	49	1N				260	2.9	EJU	
HTPR	24	1156	1203	1300	N05	E2E	.437	16239	26.4	64	1N		C	1203	280	3.1	EU	
KHAR	24	1157E	1205	1230D	N05	E25	.422	16239	26.4	33D	1N		P	1205	250	2.8	ET	
RAMY	24	1159	1212	1314	N06	E2C	.340	16239	26.0	75	1B	3	C		330		F	
LVOV	24	1202	1203	1217	N06	E28	.467	16239	26.6	15	1N		C	1203	250	2.9	EJ	

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX LONG. DIST	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		CONF.	TYPE	TIME UT	MEAS. AREA Millionths of Disk	CORR. AREA Sq. Deg.		
88 HUAN	24	1316	1321	1327	N22	W68	.921	16229	19.5	11	-N	1	C	1321	20		D	ZX
GRP77089	24	1459+1	1501+1	1512	S14	W10	.394	16240	23.9	13	-N				50	.5	E	
HTPR	24	1459	1502	1512	S15	W10	.409	16240	23.9	13	-F		C	1502	40	.4	E	
RAMY	24	1459	1501	1514	S12	W11	.373	16240	23.8	15	-B	3	C		67		F	
HUAN	24	1500		1507	S14	W08	.382	16240	24.0	7	-F	1	C				E	
90 RAMY	24	1532	1534	1540	S13	W42	.723	16231	21.5	8	-N	3	C		29			ZX
91 RAMY	24	1544	1545	1556	N06	E19	.324	16239	26.1	12	-N	3	C		34			ZX
GRP77092	24	1632		1654D	N04	E64	.897	16246	29.5	22	-B				80	1.8	EG	
HTPR	24	1632		1654D	N05	E64	.896	16246	29.5	22D	1N		C	1638	180	2.3	G	
MCMA	24	1636E		1641D	N04	E65	.904	16246	29.6	5D	-B		C	1641	70	1.7	E	
GRP77093	24	1814+1	1815+1	1828	N06	E18	.308	16239	26.1	14	-N				140	1.5	EHU	
PALE	24	1814	1815	1832	N06	E17	.291	16239	26.0	18	1B	3	C		210		DE	
HOLL	24	1815	1816	1822	N06	E16	.274	16239	26.0	7	-B	3	C		97		UDE	
HUAN	24	1815	1816	1820	N07	E17	.290	16239	26.0	5	-N	1	C	1816	80			
MCMA	24	1816E		1850D	N06	E20	.340	16239	26.3	34D	-N		P	1816	160	1.7	EH	
HUAN	24	1817	1817	1823	N08	E25	.419	16239	26.6	6	-F	1	C	1817	20	.2	D	
PALE	24	1845	1846	1850	N06	E17	.291	16239	26.1	5	-N	3	C		25			
94 PALE	24	1845	1846	1850	N06	E17	.291	16239	26.1	5	-N	3	C		25			ZX
GRP77095	24	1920+4	1924+1 1953+4	2009	N17	E28	.486	16238	26.9	49	-N				40	.5	EL	
HOLL	24	1920	1924	2021D	N16	E28	.482	16238	26.9	61D	-B	3	C		41			
HUAN	24	1924		1952	N18	E28	.491	16238	26.9	28	-F	1	C	1927	30	.3	E	
PALE	24	1924	1925	1935	N18	E29	.505	16238	27.0	11	-B	3	C		31			
MCMA	24	1931E		2015	N18	E28	.491	16238	26.9	44D	-N		C	1931	50	.6	EL	
PALE	24	1939	1939	2002	N18	E29	.505	16238	27.0	23	-N	3	C		25			
PALE	24	1939	1953	2002	N18	E29	.505	16238	27.0	23	-F	3	C		37			
BIGB	24	1949	1957	2009D	N16	E28	.482	16238	26.9	20D	-N	1	P	1957	30	.4		
GRP77096	24	1924+1	1925	1932	S31	E18	.666	16241	26.2	8	-F							
HUAN	24	1924		1934	S32	E18	.677	16241	26.2	10	-F	1	C					
PALE	24	1925	1925	1930	S31	E18	.666	16241	26.2	5	-N	3	C		29			
GRP77097	24	1940+1	1944+0	2030D	N22	E40	.661		27.8	50	-F				80	1.1	EGL	
MCMA	24	1940E	1944	2015D	N22	E40	.661		27.8	35D	-F		C	1944	60	.8	EL	
BIGB	24	1941	1944	2030D	N22	E40	.661		27.8	49D	-F	1	P	1944	100	1.3	G	
98 MCMA	24	2016		2059D	N06	E20	.340	16239	26.3	43D	-F		C	2024	75	.9	E	ZX
GRP77099	24	2116+2	2120+1	2145	N06	E16	.274	16239	26.1	29	-B				50	.5	U	
HOLL	24	2116	2120	2142	N05	E16	.276	16239	26.1	26	-B	3	C		63		U	
PALE	24	2117	2121	2141D	N06	E15	.258	16239	26.0	24D	-B	3	C		45		FDE	
BIGB	24	2118	2120	2148	N07	E16	.274	16239	26.1	30	-N	1	C	2120	40	.4		
GRP77100	24	2130+5	2135+4	2144	N17	E28	.486	16238	27.0	14	-F				110	1.3		
CULG	24	2130	2135	2144	N18	E28	.491	16238	27.0	14	-F		C	2135	150	1.7		
PALE	24	2135	2139	2143D	N17	E28	.486	16238	27.0	8D	-N	3	C		80		DE	
GRP77101	24	2148+0	2153+2	2243	N17	E27	.472	16238	26.9	55	1B						U	
HOLL	24	2129	2155	2315	N17	E26	.458	16238	26.8	106	1B	3	C		436		U F	
BIGB	24	2148	2153	2226D	N17	E28	.486	16238	27.0	38D	-B	1	P	2153	80	.9		
CULG	24	2148	2153	2304	N18	E28	.491	16238	27.0	76	1B		C	2153	240	2.8		
VORO	24	2151E		2220	N17	E28	.486	16238	27.0	29D	1F		C	2152	278	3.2	E	
PALE	24	2152E	2155U	2240	N18	E25	.450	16238	26.8	48D	1B	3	C		282		FDE	
VORO	24	2152	2153	2203	N10	E27	.452	16238	26.9	11	-N		C	2153	63	.7	D	
102 HOLL	24	2218	2218	2226	S26	W59	.914	16224	20.5	8	-N	3	C		16			ZX
103 CULG	24	2245	2248	2305	N06	E13	.224	16239	25.9	20	-F		C	2248	50	.5		ZX
104 CULG	24	2340	2345	2352	S23	W75	.982	16224	19.4	12	-F		C	2345	10		T	ZX
GRP77105	25	0017+2	0021+6	0101	N07	E16	.274	16239	26.2	44	-N						FK	
VORO	25	0017	0021	0112	N08	E17	.290	16239	26.3	55	1N		C	0021	197	2.0	EK	
CULG	25	0018	0022	0146	N07	E15	.257	16239	26.1	88	-B		C	0022	130	1.4	FK	
YUNN	25	0018	0021	0052	N07	E15	.257	16239	26.1	34	1N		C		289			
HOLL	25	0019	0023	0036D	N05	E14	.243	16239	26.1	17D	-B	2	C		181		F	
PALE	25	0025E	0027U	0051	N07	E17	.290	16239	26.3	26D	-B	3	C		113		FDE	
BIGB	25	0026	0027	0107	N07	E15	.257	16239	26.1	41	-N	1	C	0027	50	.5		
MANI	25	0028E	0028U	0050	N05	E16	.276	16239	26.2	22D	-N	3	V		80		F	

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill of Disk	CORR. AREA Sq. Deg.		
GRP77106	25	0029+1	0130+3	0136D	N17	E25	.444	16238	26.9	67	-N				60	.7	F	
HOLL	25	0029	0030	0036D	N17	E25	.444	16238	26.9	70	-N	2	C		40			
CULG	25	0030	0033	0136U	N17	E26	.458	16238	27.0	660	-N		C	0033	80	.9	FT	
107 CULG	25	0124	0126	0135	S23	E42	.776	16245	28.2	11	-N		C	0126	30	.5	HG	ZX
108 CULG	25	0138	0144	0152	S22	W75	.981	16224	19.4	14	-N		C	0144	40		T	ZX
109 CULG	25	0155	0157	0202	S34	E10	.671	16241	25.8	7	-B		C	0157	40	.6		ZX
110 CULG	25	0302	0310	0351	N05	F16	.276	16239	26.3	49	-N		C	0310	80	.8		ZX
111 CULG	25	0434	0435	0439	S33	F12	.664	16241	26.1	5	-N		C	0435	20	.3		ZX
GRP77112	25	0519+2	0523+2	0541	N18	E23	.422	16238	26.9	22	-B				70	.8	DH	
CULG	25	0519	0525	0543	N16	E23	.422	16238	26.9	24	-N		C	0525	60	.7	H	
PURP	25	0521	0523	0541	N18	E22	.408	16238	26.9	20	1B		C					
TACH	25	0521	0524	0535	N17	E25	.444	16238	27.1	14	-B		C	0524	88	1.8	DH	
113 ABST	25	0522	0525	0535	N29	W60	.870	16244	20.7	13	-N		C	0525	87	1.7	EJ	ZX
114 CULG	25	0541	0545	0558	N27	W61	.875	16244	20.7	17	-N		C	0545	20	.4		ZX
115 ABST	25	0542	0543	0600	N16	E26	.454	16238	27.2	18	-N		C	0543	87	1.0	EJV	ZX
116 CULG	25	0559	0609	0647	S14	W47	.779	16231	21.7	48	-F		C	0609	30	.4		ZX
117 CULG	25	0604	0609	0616	S22	W76	.984	16224	19.6	12	-F		C	0609	30		T	ZX
118 ABST	25	0722	0727	0730	S22	E43	.779	16245	28.5	8	-N		C	0727	87	1.4	D	ZX
GRP77119	25	0745+2	0749 0800+5	0828	N17	E22	.402	16238	27.0	43	1N				200	2.2	EK	
YUKN	25	0745	0800	0830	N17	E24	.430	16238	27.1	45	1F		C		273			
HTPR	25	0745	0803	0818	N17	E21	.388	16238	26.9	33	-F		C					
HTPR	25	0745	0749	0818	N17	E21	.388	16238	26.9	33	-F		C	0749	20	.2	E	
ABST	25	0746	0803	0804D	N16	E24	.425	16238	27.1	18D	-N		P	0803	174	1.9	EK	
PURP	25	0747	0805	0820	N18	E21	.394	16238	26.9	33	1B		C					
ISTA	25	0747		0835	N17	E22	.402	16238	27.0	48	1B		V				F	
CATA	25	0800	0805	0835	N17	E21	.388	16238	26.9	35	-B	2	C	0805	168	1.8		
120 ISTA	25	0802		0806	S34	E08	.666	16241	25.9	4	-N		V	0804			C	ZX
GRP77121	25	1028	1031 1035	1042	N17	E19	.359	16238	26.9	14	-F							
HTPR	25	1028	1031	1042	N17	E19	.359	16238	26.9	14	-F		C	1035	20	.2		
HTPR	25	1028	1035	1042	N17	E19	.359	16238	26.9	14	-F		C					
122 HTPR	25	1215	1224	1250	N06	E54	.805	16246	29.6	35	-F		C	1224	40	.7	E	ZX
123 RAMY	25	1241	1248	1313	S15	W54	.847	16231	21.5	32	-N	3	C		31			ZX
GRP77124	25	1348+6	1357+0 1403+2	1432	N06	E07	.122	16239	26.1	44	-B				140	1.4	EK	
HTPR	25	1348	1403	1425	N05	E10	.176	16239	26.3	37	-N		C	1403	100	1.0	EK	
HUAN	25	1352	1357	1414	N07	E08	.138	16239	26.2	22	-N	2	C	1357	30	.3	E	
HOLL	25	1353	1405	1438	N05	E06	.110	16239	26.0	45	-B	3	C		160		F	
RAMY	25	1354	1357	1412D	N05	E06	.110	16239	26.0	18D	-B	3	C		49			
MCMA	25	1401E		1445D	N07	E07	.121	16239	26.1	44D	-B		C	1404	150	1.5	E	
GRP77125	25	1356+1	1357+3	1411	N17	E18	.345	16238	26.9	15	-N				90	1.0	E	
HTPR	25	1356	1357	1413	N17	E18	.345	16238	26.9	17	-N		C	1357	120	1.2	E	
HUAN	25	1356	1358	1407	N17	E18	.345	16238	26.9	11	-N	2	C	1358	80	.8	E	
RAMY	25	1357	1359	1410	N17	E17	.332	16238	26.9	13	-B	3	C		84			
HOLL	25	1357	1400	1412	N17	E17	.332	16238	26.9	15	-B	2	C		117		F	
MCMA	25	1401E		1411D	N17	E18	.345	16238	26.9	10D	-N		C	1401	50	.5	E	
GRP77126	25	1403+5	1410+0	1438	S13	W69	.948	16243	20.4	35	-N				30		D	
HOLL	25	1403	1410	1445	S13	W68	.942	16243	20.5	42	-N	3	C		44			
RAMY	25	1405	1410	1412D	S13	W70	.953	16243	20.3	70	-F	3	C					
HUAN	25	1408		1430	S15	W68	.945	16243	20.5	22	-N	1	C	1415	25		D	
MCMA	25	1409E		1420D	S13	W73	.987	16243	20.1	11D	-N		C	1411	30	1.2	D	
127 HOLL	25	1507	1510	1514	N05	E08	.110	16239	26.1	7	-B	3	C		25			ZX

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX LON. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		CONF.	TYPE	TIME UT	MEAS. AREA Mill of Disk	CORR. AREA Sq. Deg.	
GRP77128	25	1511+0	1512 1522	1538	S15	W55	.855	16231	21.5	27	-N				80	1.5	EG
BIGB	25	1511E	1522	1540D	S15	W54	.847	16231	21.6	29D	-N	1	P	1522	90	1.6	G
HOLL	25	1511	1512	1519D	S14	W56	.861	16231	21.4	8D	-B	3	C		23		
HUAN	25	1511		1536	S17	W55	.861	16231	21.5	25	-N	1	C	1521	70	1.3	E
GRP77129	25	1529+8	1534+3	1550	N25	W82	.984	16229	19.5	21	-N				40		E
HTPR	25	1529	1534	1550	N25	W78	.971	16229	19.8	21	-F		C	1534	60		E
HUAN	25	1534	1535	1550	N25	W85	.991	16229	19.3	16	-N	2	C	1535	40		
HOLL	25	1537	1537	1552	N24	W82	.984	16229	19.5	15	-N	3	C		32		
GRP77130	25	1601+5	1622+1	1652	S32	E08	.640	16241	26.3	51	-N				110	1.4	EU
HTPR	25	1601		1637D	S32	E07	.637	16241	26.2	36D	-N		C	1617	150	1.8	EF
MCMA	25	1603		1624D	S33	E08	.653	16241	26.3	21D	-N		C	1618	100	1.4	E
HUAN	25	1605		1609D	S32	E10	.645	16241	26.4	4D	-N	1	P	1607	60	.8	E
HOLL	25	1606	1622	1652	S32	E0E	.635	16241	26.1	46	-B	3	C		120		U
BIGB	25	1620E	1623U	1642D	S33	E09	.655	16241	26.4	22D	-N	1	P	1623	90	.9	
131 HOLL	25	1612	1612	1650	S24	W81	.996	16224	19.6	46	-N	3	C		8		ZX
GRP77132	25	1616+1	1621+5	1707	S15	W56	.8E3	16231	21.5	51	1N				210	4.0	G
MCMA	25	1616		1624D	S16	W56	.866	16231	21.5	8D	1F		C	1623	100	2.1	E
HOLL	25	1617	1621	1702	S14	W56	.8E1	16231	21.5	45	1B	3	C		255		F
BIGB	25	1625E	1626D	1712D	S15	W55	.855	16231	21.6	47D	1N	1	P	1626	210	3.8	G
133 HOLL	25	1620	1622	1637	S13	W69	.948	16243	20.5	17	-N	3	C		14		ZX
	25	1650	1655	NO FLARE PATROL													
GRP77134	25	1702+1	1704+3	1736	N05	E07	.126	16239	26.2	34	-N				35	.4	F
HOLL	25	1702	1704	1736	N05	E05	.094	16239	26.1	34	-B	3	C		49		F
KANZ	25	1702	1707	1707D	N06	E07	.122	16239	26.2	5D	-F	1					
HTPR	25	1703		1724D	N05	E18	.176	16239	26.5	21D	-F		C	1704	20	.2	
135 HOLL	25	1708	1709	1753	S26	W69	.984	16224	20.5	45	-N	3	C		11		ZX
136 HOLL	25	1716	1718	1726	S13	W70	.953	16243	20.5	10	-N	3	C		32		ZX
	25	1724	1725	NO FLARE PATROL													
137 HOLL	25	1800	1801	1808	S32	E05	.634	16241	26.1	8	-B	3	C		61		ZX
138 BIGB	25	1924	1926U	1938	S13	W70	.953	16243	20.6	6	-N	2	C	1926	20		ZX
GRP77139	25	1943+4	1951 2007	2133	N05	00	.035	16239	25.8	110	1B				270	2.7	
HOLL	25	1943	2007	2145	N05	W01	.039	16239	25.7	122	1B	3	C		414		FDE
BIGB	25	1946E	1951E	2047	N05	E02	.050	16239	26.0	61D	-B	2	P	1951	130	1.3	
PALE	25	1947	2014U	2121D	N04	E00	.052	16239	25.8	94D	1B	3	C		300		FDE
HUAN	25	2004E		2146D	N05	W02	.050	16239	25.7	102D	1N	2	P	2016	250	2.5	E
140 BIGB	25	2209	2211	2218	S14	W57	.869	16231	21.6	9	-N	2	C	2211	60	1.1	ZX
GRP77141	25	2220+1	2227+6	2251	S20	E30	.643	16245	28.2	31	-B				50	.6	
HOLL	25	2220	2227	2248	S19	E30	.635	16245	28.2	28	-B	3	C		119		
BIGB	25	2221	2228	2251	S20	E30	.643	16245	28.2	30	-B	2	C	2228	50	.6	
CULG	25	2232E	2233	2252	S21	E29	.642	16245	28.1	20D	-N		C	2233	30	.4	
GRP77142	25	2305+3	2309+2	2333	S12	W74	.970	16243	20.4	28	-N				35		G
CULG	25	2305	2309	2331	S12	W74	.970	16243	20.4	26	-N		C	2309	30		
BIGB	25	2308	2311	2334	S13	W75	.975	16243	20.3	26	-N	2	C	2311	40		G
143 CULG	25	2308	2310	2326	S14	W28	.571	16240	23.9	18	-F		C	2310	30	.4	F ZX
144 CULG	25	2313	2313	2320	N08	W01	.024	16239	25.9	7	-F		C	2313	20	.2	ZX
145 CULG	25	2316	2320	2333	S32	E03	.631	16241	26.2	17	-F		C	2320	10	.1	ZX
GRP77146	26	0002+5	0010+0	0034	N18	E12	.276	16238	26.9	32	-B				80	.8	
CULG	26	0002	0010	0042	N18	E12	.276	16238	26.9	40	-B		C	0010	90	.9	
BIGB	26	0007	0010	0026	N17	E12	.265	16238	26.9	19	-B	3	C	0010	60	.6	
HANI	26	0010E	0010U	0016D	N18	E14	.300	16238	27.1	6D	-B	3	C		100		
147 CULG	26	0025	0027	0034	S14	W60	.892	16231	21.5	9	-F		C	0027	30	.6	ZX
148 CULG	26	0030	0035	0051	S25	W55	.886	16231	21.9	21	-F		C	0035	40	.8	I ZX

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		CONF.	TYPE	TIME UT	MEAS. AREA Mill of Disk	CORR AREA Sq. Deg.		
GRP77149	26	0050+3	0053	0119	N04	E06	.117	16239	26.5	29	-F							
			0108															
CULG	26	0058	0053	0114	N05	E06	.110	16239	26.5	24	-N		C	0053	60	.6		
PURP	26	0053	0108	0124	N04	E06	.117	16239	26.5	31	-F		C					
GRP77150	26	0130+8	0141	0251	S14	W60	.892	16231	21.6	81	2B				260	5.5	FGKU	
			0151+7															
CULG	26	0112	0151U	0420U	S15	W60	.894	16231	21.6	188D	1B		C	0151	150	3.2	U	
YUNN	26	0138	0158	0251	S13	W62	.905	16231	21.4	81	1B		C		274			
PURP	26	0136	0152	0235	S14	W66	.932	16231	21.1	59	2B		C		340		K	
BIGB	26	0138	0141	0144D	S15	W58	.879	16231	21.7	6D	1B	3	P	0141	120	2.3	G	
MANI	26	0140E	0157U	0201D	S13	W57	.867	16231	21.8	21D	2B	3	C		250		F	
GRP77151	26	0335>9	0338	0411	N05	E01	.040	16239	26.2	36	-N							
CULG	26	0335	0338	0415	N05	E03	.063	16239	26.4	40	-N		C	0338	90	.9	F	
TACH	26	0349		0407	N06	E00	.018	16239	26.2	18	1F		V	0351	282	2.8	BE	
152 CULG	26	0443	0448	0504	N19	E86	.994	16252	1.6	21	-N		C	0448	40			ZX
GRP77153	26	0504>9	0511+6	0539	N17	E07	.209	16238	26.7	35	-N						DJ	
ABST	26	0504	0511	0538	N17	E06	.200	16238	26.7	34	-N		C	0511	87	.9	DJ	
PURP	26	0516	0517	0540	N18	E09	.242	16238	26.9	24	1N		P					
154 CULG	26	0511	0513	0519	S13	W63	.911	16231	21.5	8	-F		C	0513	50	1.2		ZX
155 CULG	26	0535	0542	0552	N05	W01	.040	16239	26.2	17	-F		C	0542	30	.3		ZX
GRP77156	26	0648+7	0650+5	0715	N04	E04	.088	16239	26.6	27	1N						IJ	
ABST	26	0648	0650	0715	N15	E05	.162	16239	26.7	27	-N		C	0650	174	1.8	EJ	
CULG	26	0649	0652	0706D	N05	E04	.078	16239	26.6	17D	-N		C	0652	120	1.2		
ISTA	26	0651		0715	N04	E04	.088	16239	26.6	24	2N		V	0656			IF	
BUCA	26	0652E		0659D	N04	E04	.088	16239	26.6	7D	1F		C	0653	214	2.2		
CATA	26	0655	0655	0720	N04	W03	.075	16239	26.1	25	1N	2	C	0655	196	2.0		
157 ISTA	26	0704		0709	S22	E26	.625	16245	28.2	5	-F		V	0705			D	ZX
158 ISTA	26	0755		0804	S15	W90	1.001		19.6	9	-N		V				AD	ZX
159 ISTA	26	0802		0815	N06	W07	.122	16239	25.8	13	?N		V	0804			IF	ZX
	IMP.1 NO # YUNN CATA																	
160 TELV	26	0837	0845	0848	S32	E01	.630	16241	26.4	11	-N	3	C		27	.3	D	ZX
161 TELV	26	0945		0948	S32	E00	.630	16241	26.4	3	-N	3	C		27	.3	D	ZX
162 TELV	26	0951	0952	1000	S32	W01	.630	16241	26.3	9	-N	3	C		41	.4		ZX
163 TELV	26	1105	1111	1119D	S31	E01	.617	16241	26.5	14D	-N	3	C		49	.5	L	ZX
GRP77164	26	1125+3	1128+1	1149	N04	W02	.034	16239	26.3	24	-N				60	.6	F	
RAMY	26	1125	1128	1149	N05	W03	.110	16239	26.0	24	-N	3	C		36			
TELV	26	1128	1129	1138D	N03	E02	.079	16239	26.6	10D	-N	3	C		82	.8	F	
GRP77165	26	1222E	1258	1322	N04	W09	.164	16239	25.8	60	-N						U	
HUAN	26	1222E		1321	N04	W09	.164	16239	25.8	59D	-N	2	P	123E	100	1.0	E	
HOLL	26	1257E	1258U	1323	N05	W09	.160	16239	25.9	26D	-B	2	C		120		U F	
166 RAMY	26	1321	1321	1325	S14	W64	.920	16231	21.8	4	-N	3	C		32			ZX
GRP77167	26	1350+3	1353	1407	N04	W09	.164	16239	25.9	17	-N				40	.4		
HUAN	26	1350		1406	N04	W09	.164	16239	25.9	16	-F	1	C	1353	45	.5	E	
HOLL	26	1353	1353	1407	N05	W09	.160	16239	25.9	14	-B	3	C		30		F	
GRP77168	26	1403+0	1407+2	1427	S22	E26	.625	16245	28.5	24	-N				50	.6	E	
HUAN	26	1403	1407	1428	S22	E27	.633	16245	28.6	25	-N	2	C	1407	45	.5	E	
HOLL	26	1403	1409	1426	S21	E22	.579	16245	28.2	23	-N	3	C		61			
MCMA	26	1403E		1425D	S24	E26	.644	16245	28.5	22D	-N		P	1407	30	.4	E	
GRP77169	26	1423>9	1446	1552	N05	W08	.143	16239	26.0	89	-B						F	
			1532															
RAMY	26	1423	1503	1555	N05	W08	.143	16239	26.0	92	-B	3	C		47		F	
HOLL	26	1445	1446	1453	N05	W07	.126	16239	26.1	8	-B	3	C		28			
HOLL	26	1512	1532	1548	N05	W08	.143	16239	26.0	36	-B	3	C		41		F	
170 BIGB	26	1447	1450	1454	N17	E90	.999	16252	2.4	7	-N	3	C	1450	20			ZX

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST	CENTRAL DISTANCE	McMATH FLARE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Millionths of Disk	CORR AREA Sq. Deg.		
GRP77171	26	1615+2	1701+4 1802	2203	N05	W11	.193	16239	25.9	348	2B				650	5.6	KUZ	
RAMY	26	1615	1705U	1750D	N05	W09	.160	16239	26.0	950	3B	3	C		763		Z U	
HOLL	26	1617	1702	2203	N05	W09	.160	16239	26.0	346	2B	3	C		991		Z U	
HOLL	26	1617	1802	2203	N05	W09	.160	16239	26.0	346	1B	3	C		475		Z U	
MCMA	26	1625E		1639D	N04	W11	.197	16239	25.9	140	-N		P	1630	80	.9	E	
BIGB	26	1639	1701	2146D	N05	W12	.210	16239	25.8	3070	2B	3	P	1701	650	5.8		
MCMA	26	1642E		1704D	N06	W13	.224	16239	25.7	220	1B		C	1659	400	4.3	FK	
HUAN	26	1646E		2101D	N05	W13	.226	16239	25.7	2550	2B	2	P	1658	530	5.6	E	
PALE	26	1707E	1707U	2002D	N05	W10	.176	16239	26.0	1750	2B	3	C		763		U F	
172 RAMY	26	1639	1640	1645	N20	E75	.959	16252	1.3	6	-F	3	C					ZX
173 BIGB	26	2049	2051	2107	N26	E05	.334		27.2	18	-N	3	C	2051	40	.4	G	ZX
	26	2146	2148	NO FLARE PATROL														
GRP77174	27	0049+1	0049+2	0055	N06	W12	.207	16239	26.1	6	-N				50	.5		
PALE	27	0049E	0049U	0055	N06	W12	.207	16239	26.1	60	-B	3	C		45		DE	
MANI	27	0050E	0050U	0055	N05	W10	.176	16239	26.3	50	-N	3	V		40		F	
VORO	27	0050	0051	0100	N06	W13	.224	16239	26.1	10	-N		C	0051	152	1.6	E	
175 PALE	27	0055E	0055U	0104	N18	E75	.959	16252	1.7	90	-N	3	C		22		DE	ZX
176 HITK	27	0220	0222	0235	N30	E42	.714	16247	30.2	15	1N		C	0222	150	2.2	G	ZX
177 HITK	27	0257	0303	0331	N28	W22	.493	16237	25.5	34	-F		C	0303			EG	ZX
178 HITK	27	0306	0308	0313	N08	W07	.122	16239	26.6	7	-N		C	0308			D	ZX
179 TACH	27	0506	0510	0535	N16	E06	.185	16238	27.7	29	-B		C	0510	71	.7	DJ	ZX
180 ISTA	27	0719		0725	N10	W10	.179	16239	26.6	6	-N		V				C	ZX
181 ISTA	27	0812		0830	N05	W20	.342	16239	25.8	18	-N		V				E	ZX
182 TELV	27	0821	0822	0829	S14	E22	.505		29.0	8	-N	3	C		33	.4	D	ZX
183 TELV	27	0955	0957	1015	S36	E07	.689		27.9	20	-F	3	C	0957	60	.6		ZX
GRP77184	27	0957+2	1000+2	1014	S29	E42	.811	16251	30.6	17	-F				50	.8	E	
KHAR	27	0957E	1000	1018D	S29	E43	.818	16251	30.6	210	-F		P	1000	45	.8	E	
MONT	27	0959	1002	1009	S29	E41	.804	16251	30.5	10	-F		C	1002	50		E	
185 KHAR	27	1006E	1008	1018D	N21	E73	.949	16252	1.9	120	-F		P				DT	ZX
186 KHAR	27	1042E		1052D	N18	W07	.223	16238	26.9	180	-F	*	P	1045	50	.5	D	ZX
187 KHAR	27	1042E		1058D	N14	E70	.933	16252	1.7	160	-F		P				ET	ZX
GRP77188	27	1045E	1058 1105	1135D	N04	W17	.296	16239	26.2	50	-F						CE	
KHAR	27	1045E	1058	1132D	N03	W12	.219	16239	26.5	470	-F		P	1058	30	.3	CT	
KHAR	27	1052E		1108D	N06	W18	.308	16239	26.1	160	-F		P	1058	70	.7	ET	
KHAR	27	1058E	1105	1118D	N04	W20	.344	16239	26.0	200	-F		P	1105	50	.6	DT	
KHAR	27	1105F		1118D	N06	W13	.224	16239	26.5	130	-F		P	1105	30	.3	DT	
KHAR	27	1121		1135D	N03	W22	.379	16239	25.8	130	-F		P	1122	30	.4	CDT	
GRP77189	27	1223+7	1230+6	1250	S23	E09	.520	16245	28.2	27	-N				60	.7	F	
TELV	27	1223	1230	1250	S26	E07	.556	16245	28.0	27	-N	3	C		74	.8	F	
ZURI	27	1228	1236	1250D	S23	E14	.545	16245	28.6	220	-N		P	1236	70	.9		
RAMY	27	1230	1232	1240	S20	E09	.477	16245	28.2	10	-N	3	C		33			
TELV	27	1231	1233	1245	S25	E08	.545	16245	28.1	14	-N	3	C		24	.3	D	
190 RAMY	27	1343	1350	1359	N18	E65	.899	16252	1.4	16	-N	3	C		14			ZX
GRP77191	27	1455E		1556	N03	W14	.251	16239	26.6	61	-F						D	
HUAN	27	1455E		1556	N03	W14	.251	16239	26.6	610	-F	1	P	1502	20	.2	C	
KANZ	27	1458E		1513D	N04	W15	.263	16239	26.5	150	-F	2						
GRP77192	27	1541+7	1550	1615	S28	E44	.820	16251	31.0	34	-F						E	
HUAN	27	1541		1620	S28	E45	.827	16251	31.0	39	-F	1	C				E	
BIGB	27	1548	1550	1609	S29	E44	.825	16251	31.0	21	-N	2	C	1550	20	.3		

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		CONF.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
GRP77193	27	1543>9	1605+4	1627	N04	W24	.408	16239	25.9	44	-B				30	.3		
RAMY	27	1543	1608	1705	N04	W24	.408	16239	25.9	82	-B	*	C		48			
BIGB	27	1602	1605	1627	N04	W24	.408	16239	25.9	25	-N	*	C	1605	20	.2		
HOLL	27	1608	1609	1621	N05	W22	.374	16239	26.0	13	-B	*	C		25			
194 BIGB	27	1654	1655	1710	N03	W15	.267	16239	26.6	16	-B	*	C	1655	10	.1	D	ZX
195 BIGB	27	1717	1719	1734	N03	W15	.267	16239	26.6	17	-N	2	C	1719	10	.1		ZX
196 BIGB	27	1809	1810	1813	N07	W18	.307	16239	26.4	4	-N	2	C	1810	20	.2		ZX
GRP77197	27	1829+9	1845+7	1927	N05	W23	.390	16239	26.0	58	-B				70	.8	F	
PALE	27	1829E	1845U	1930D	N05	W23	.390	16239	26.0	61D	-N	2	C		50		F	
HUAN	27	1834		1911	N04	W24	.408	16239	26.0	37	-N	1	C	1852	70	.7	E	
RAMY	27	1835	1851	1939	N06	W22	.373	16239	26.1	64	-B	3	C		119		F	
HOLL	27	1838	1850	1914	N04	W23	.392	16239	26.1	36	-B	3	C		90		F	
BIGB	27	1849	1852	1936	N05	W23	.390	16239	26.1	47	-B	2	C	1852	40	.4		
GRP77198	27	1920+0	1922	1942	N04	W16	.279	16239	26.6	22	-F						E	
BIGB	27	1920	1922	1949	N05	W17	.293	16239	26.5	29	-N	2	C	1922	30	.3		
HUAN	27	1920		1935	N04	W16	.279	16239	26.6	15	-F	1	C				E	
GRP77199	27	2011+1	2012+0	2030	N04	W17	.296	16239	26.6	19	-N				35	.4		
BIGB	27	2011	2012	2037	N05	W17	.293	16239	26.6	26	-N	2	C	2012	40	.4		
RAMY	27	2012	2012	2023	N04	W17	.296	16239	26.6	11	-B	3	C		25			
200 HOLL	27	2048	2051	2058	S32	W22	.699	16241	26.2	10	-N	3	C		23		F	ZX
GRP77201	27	2137+1	2141+0 2148	2315	N18	E62	.877	16252	2.6	98	1B				170	3.7	Z	
RAMY	27	2137	2141	2149D	N18	E62	.877	16252	1.6	12D	1S	3	C		160		FDE	
HOLL	27	2137	2141	2315	N18	E69	.926	16252	2.1	98	1B	3	C		189		ZDE	
BIGB	27	2138	2148	2149D	N16	E60	.862	16252	1.4	11D	1B	2	P	2148	120	2.5		
202 HOLL	28	0028	0028	0031	N17	E63	.884	16252	1.7	3	-N	3	C		17			ZX
203 BIGB	28	0035	0040	0100	N05	W19	.326	16239	26.6	25	-N	2	C	0040	40	.4		ZX
204 PURP	28	0228E	0228	0229	N23	E64	.894	16252	1.9	1D	-N		P					ZX
205 PURP	28	0242	0308	0315	N04	W23	.392	16239	26.4	33	-N		C					ZX
206 PALE	28	0335E	0345U	0346	S27	E32	.720	16251	30.5	11D	-N	3	C		29		DE	ZX
207 PALE	28	0336E	0337U	0345	N17	E61	.868	16252	1.7	9D	-N	3	C		28		DE	ZX
208 PURP	28	0439	0440	0447	N04	W24	.408	16239	26.4	8	-N		C					ZX
GRP77209	28	0526+4	0533+2	0544	N07	W33	.541	16239	25.8	18	-N				90	1.1	J	
CULG	28	0526	0534	0545	N08	W33	.540	16239	25.8	19	-N		C	0534	90	1.0		
HTPR	28	0530E		0542	N07	W33	.541	16239	25.8	12D	-F		C	0535	70	.8	E	
YUNN	28	0530	0535	0545	N08	W32	.526	16239	25.8	15	1N		C		209			
ABST	28	0530	0533	0540	N06	W34	.556	16239	25.7	10	-N		C	0533	87	1.0	DJ	
GRP77210	28	0610+7	0618+1 0630+2	0715	N04	W22	.376	16239	26.6	65	-N				90	1.0	JK	
ABST	28	0610	0618	0650	N03	W21	.363	16239	26.7	40	-N		C	0618	87	.9	DJK	
CULG	28	0610U	0619	0705U	N04	W23	.392	16239	26.5	55D	-F		C	0619	80	.9		
BUCA	28	0615		0705	N05	W22	.374	16239	26.6	50	1N		C	0621	214	2.4		
HTPR	28	0616	0619	0657	N03	W23	.395	16239	26.5	41	-F		C	0619	80	.9	E	
ATHN	28	0617	0619	0644	N05	W21	.358	16239	26.7	27	-N	1		0619	97	1.1		
PURP	28	0623	0632	0744	N05	W27	.453	16239	26.2	81	1N		P					
CATA	28	0630E	0630	0740	N05	W18	.309	16239	26.9	70D	-N	2	P	0630	168	1.8		
HTPR	28	0708	0718	0737	N03	W23	.395	16239	26.6	29	-F		C	0718	50	.6	E	
GRP77211	28	0744+6	0805+0 0825	0842	N17	E56	.824	16252	2.5	58	1N						EJ	
ATHN	28	0657	0759	0834	N15	E58	.842	16252	1.6	97	1N	1		0759	131	2.3		
PURP	28	0744	0805	0829	N16	E59	.851	16252	1.7	45	2N		C		302	2.6		
HTPR	28	0745	0752	0900	N17	E56	.824	16252	1.5	75	-N	*	C	0752	100	1.7	E	
ABST	28	0749	0752	0811D	N20	E54	.807	16252	1.4	22D	1N		P	0752	131	2.2	EJ	
CATA	28	0750	0805	0830	N17	E54	.804	16252	1.4	40	1N	2	C	0805	140	2.4		
YUNN	28	0807	0825	0855	N16	E56	.823	16252	1.5	48	1F		C		241			
ZURI	28	0828E	0828	0848	N17	E53	.794	16252	1.3	20D	-F		P	0828	100	1.8		

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX LONG. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		CONF.	TYPE	TIME UT	MEAS. AREA Millionths of Disk	CORR. AREA Sq. Deg.		
GRP77212	28	0759+6	0802+6	0824	N04	W24	.408	16239	26.5	25	-N				80	.9	J	
ABST	28	0759	0808	0811D	N04	W24	.408	16239	26.5	12D	-N		P	0808	87	.9	DJ	
ATHN	28	0759	0802	0823	N05	W21	.358	16239	26.8	24	-B	4	C		80		F	
HTPR	28	0801	0805	0825	N03	W23	.395	16239	26.6	24	-N		C	0805	60	.7	E	
PURP	28	0805	0806	0821	N06	W28	.467	16239	26.2	16	1B		C					
CATA	28	0805	0805	0830	N03	W24	.411	16239	26.5	25	-N	2	C	0805	140	1.5		
213 ZURI	28	0900	0902	0904	S34	W25	.737	16241	26.5	4	-F		C	0902	90	1.4		ZX
GRP77214	28	0920>9	0939 1000	1005	N18	E55	.815	16252	2.5	45	-F						EL	
KHAR	28	0920E		0940D	N18	E53	.795	16252	1.4	20D	-F		P	0928	100	1.7	T	
KHAR	28	0926E		0942D	N16	E57	.833	16252	1.7	16D	-F		P	0928	40	.8	ET	
KHAR	28	0937E	0939	1003D	N19	E64	.892	16252	2.2	26D	-F		P	0939	80		T	
HTPR	28	0950	1000	1004	N18	E53	.795	16252	1.4	14	-F		C	1000	20	.3		
KHAR	28	0953E		1006D	N19	E54	.806	16252	1.5	13D	-F		P	0956	60	1.2	DLT	
GRP77215	28	0936	0944+1	0955	N03	W24	.411	16239	26.6	19	-F						E	
HTPR	28	0936	0944	0953	N03	W24	.411	16239	26.6	17	-F		C	0944	20	.2	E	
KHAR	28	0939E	0945	0957D	N03	W25	.426	16239	26.5	18D	-F		P	0945	130	1.5	ET	
GRP77216	28	1011+1	1014+2	1034	N17	E52	.784	16252	2.3	23	-F				90	1.5	E	
HTPR	28	1011	1014	1034	N17	E52	.784	16252	1.3	23	-F		C	1014	30	.5	E	
ZURI	28	1012	1016	1024D	N17	E52	.784	16252	1.3	12D	-F		P	1016	90	1.6		
KHAR	28	1016E		1023D	N17	E57	.823	16252	1.7	7D	1N		P	1020	120	2.1	ET	
217 KHAR	28	1016E		1023D	S31	W33	.760	16241	26.8	7D	-F		P	1020	100	1.7	E	ZX
218 KHAR	28	1020E		1023D	N03	W24	.411	16239	26.6	3D	-F		P	1023	80	.9	DT	ZX
219 HTPR	28	1025	1026	1034	N07	W26	.435	16239	26.5	9	-F		C	1026	20	.2	E	ZX
GRP77220	28	1054E		1132D	N17	E57	.823	16252	2.7	38	-F						C	
KHAR	28	1054E		1132D	N19	E60	.861	16252	2.8	38D	-F		P	1109	20	.5	CDT	
KHAR	28	1126E		1132D	N17	E53	.794	16252	1.5	6D	-F	+	P				T	
KHAR	28	1126E		1132C	N16	E57	.833	16252	1.8	6D	-F	*	P				T	
221 KHAR	28	1057E		1132D	N03	W25	.426	16239	26.6	35D	-F		P	1109	80	.9	CDT	ZX
222 KHAR	28	1126E		1132D	S29	E32	.737	16251	30.9	6D	-F		P				E	ZX
GRP77223	28	1217+5	1222 1255+1	1312	N04	W26	.439	16239	26.6	55	1B				270	3.8	E	
HTPR	28	1217	1255	1310	N04	W25	.424	16239	26.6	53	-B		C	1255	180	2.8	E	
RAMY	28	1222	1222	1313	N04	W26	.439	16239	26.6	51	-B	3	C		35			
ZURI	28	1254	1256	1256D	N05	W27	.453	16239	26.5	2D	1B		P	1256	370	4.2		
GRP77224	28	1219+1	1230+0	1245	N18	E56	.843	16252	2.9	26	1N				120	2.3		
RAMY	28	1219	1230	1245	N18	E50	.764	16252	1.3	26	-B	3	C		96			
HTPR	28	1220	1230	1245	N17	E58	.842	16252	1.9	25	1N		C	1230	130	2.3	EF	
ZURI	28	1232E	1232	1238	N18	E59	.852	16252	1.9	6D	1N		P	1232	120	2.4		
GRP77225	28	1259+2	1308+1 1315	1401	N18	W23	.421	16238	26.8	62	1B				230	2.6	EU	
HTPR	28	1259	1309	1410	N18	W23	.421	16238	26.8	71	1B		C	1309	210	2.3	EU	
RAMY	28	1301	1308	1408	N19	W23	.428	16238	26.8	67	1B	3	C		254		DE	
LOCA	28	1310E	1315	1340	N18	W20	.380	16238	27.0	30D	1N		V	1315	285	3.2		
ZURI	28	1340E	1340	1354D	N19	W22	.414	16238	26.9	14D	-N		P	1340	160	1.8		
HUAN	28	1351E		1402D	N18	W24	.435	16238	26.8	11D	-F	1	P				E	
226 RAMY	28	1335	1335	1341	N17	E54	.804	16252	1.6	6	-N	3	C		14		F	ZX
GRP77227	28	1504+4	1509+1 1523	1537	N03	W30	.502	16239	26.4	33	-N				30	.3		
HTPR	28	1504	1509	1531	N03	W27	.457	16239	26.6	27	-F		C	1509	20	.2		
HUAN	28	1505	1509	1512	N02	W28	.475	16239	26.5	7	-N	1	C	1509	20	.2	D	
RAMY	28	1508	1510	1543	N06	W32	.542	16239	26.2	35	-B	3	C		35		F	
BIGB	28	1508	1519	1531	N03	W28	.472	16239	26.5	23	-N	1	C	1519	20	.2		
BIGB	28	1518	1523	1547	N04	W37	.601	16239	25.9	29	-N	1	C	1523	30	.4		
GRP77228	28	1517+1	1518+1	1536	N19	E53	.796	16252	2.6	19	-F				20	.3	E	
BIGB	28	1517	1518	1541	N21	E55	.818	16252	1.8	24	-N	1	C	1518	20	.4		
HTPR	28	1518	1519	1531	N18	E51	.775	16252	1.5	13	-F		C	1519	20	.3	E	

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		CONF.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.	
GRP77229	28	1642+5	1647+1	1720	N03	W29	.487	16239	26.5	38	-N				20	.2	E
HTPR	28	1642	1648	1720	N03	W28	.472	16239	26.6	38	-F		C	1648	30	.3	E
BIGB	28	1646	1647	1723	N03	W29	.487	16239	26.5	37	-N	1	C	1647	10	.1	
RAMY	28	1647	1648	1655	N06	W34	.556	16239	26.1	8	-B	3	C		30		
GRP77230	28	1659+7	1704+2	1728	N24	E54	.812	16252	2.8	29	-N				50	.9	E
HOLL	28	1659	1706	1739	N24	E53	.803	16252	1.7	40	-B	3	C		118		
BIGB	28	1703	1704U	1747	N24	E54	.812	16252	1.8	44	-N	2	P	1704	50	.9	
RAMY	28	1704	1706	1721	N26	E53	.807	16252	1.7	17	-B	3	C		46		
HTPR	28	1705		1723D	N24	E55	.821	16252	1.8	180	-F		C	1707	50	.9	E
PALE	28	1706	1706	1721	N25	E54	.814	16252	1.8	15	-N	3	C		32		DE
GRP77231	28	1722+3	1725+1 1741	1750	N04	W29	.485	16239	26.5	28	-N				30	.3	
RAMY	28	1700	1741	1747	N03	W29	.487	16239	26.5	47	-N	*	C		22		F
PALE	28	1722	1725	1750	N04	W29	.485	16239	26.5	28	-N	*	C		30		DE
BIGB	28	1725	1726	1758	N05	W29	.483	16239	26.6	33	-N	*	C	1726	30	.4	
232 HOLL	28	1800	1806	1812	N17	E57	.833	16252	2.0	12	-N	3	C		20		ZX
GRP77233	28	1804+3	1808 1816+2	1836	N05	W34	.557	16239	26.2	32	-B				30	.4	
PALE	28	1804	1818	2007D	N05	W34	.557	16239	26.2	123D	-N	3	C		20		FDE
RAMY	28	1806	1818	1829	N06	W35	.570	16239	26.1	23	-B	3	C		66		F
RAMY	28	1806	1808	1829	N06	W35	.570	16239	26.1	23	-F	3	C		19		F
BIGB	28	1807	1816	1836	N03	W30	.502	16239	26.5	29	-N	2	C	1816	30	.4	
BIGB	28	1817	1818	1831	N08	W32	.611	16239	25.9	14	-B	2	C	1818	30	.4	
GRP77234	28	1834+1	1842+0	1919	S28	E24	.670	16251	30.6	45	-B				100	1.3	F
HOLL	28	1834	1842	1909	S28	E24	.670	16251	30.6	35	-B	3	C		97		
RAMY	28	1834	1842	1925	S27	E24	.660	16251	30.6	51	-B	3	C		85		F
BIGB	28	1835	1842	1935	S28	E25	.523	16251	30.6	60	-N	2	C	1842	120	1.4	
PALE	28	1849E	1849U	1912	S29	E23	.674	16251	30.5	23D	-B	3	C		55		F
GRP77235	28	1851+0	1851+0	1905	N05	W34	.557	16239	26.2	14	-N				20	.2	
PALE	28	1804	1850	2007D	N05	W34	.557	16239	26.2	123D	-F	*	C		22		FDE
HOLL	28	1851	1851	1859	N04	W34	.559	16239	26.2	8	-B	*	C		20		
RAMY	28	1851	1851	1905	N06	W35	.570	16239	26.2	14	-B	*	C		22		F
GRP77236	28	1910+4	1919+3 1946+1	1955	N04	W35	.573	16239	26.2	45	-B				70	.9	E
HOLL	28	1910	1920	1951	N04	W35	.573	16239	26.2	41	-N	*	C		72		DE
HOLL	28	1910	1947	1951	N04	W35	.573	16239	26.2	41	-B	*	C		96		DE
RAMY	28	1911	1919	1926D	N06	W36	.585	16239	26.1	15D	-B	*	C		75		F
BIGB	28	1914	1922	1959	N04	W31	.515	16239	26.5	45	-B	*	C	1922	60	.7	
BIGB	28	1945	1946	1951	N03	W30	.502	16239	26.6	6	-B	*	C	1946	20	.2	E
237 HOLL	28	2040	2042	2103	S31	W37	.788	16241	26.1	23	-N	3	C		21		ZX
238 BIGB	28	2051	2052	2059	N07	W33	.541	16239	26.4	8	-F	2	C	2052	20	.3	ZX
239 BIGB	28	2113	2115	2129	N10	E73	.952	16260	3.4	16	-N	2	C	2115	30		ZX
GRP77240	28	2134+2	2135+1	2144	N06	W32	.527	16239	26.5	10	-B				30	.4	F
BIGB	28	2134	2135	2146	N06	W32	.527	16239	26.5	12	-B	2	C	2135	30	.4	
HOLL	28	2136	2136	2141	N06	W32	.527	16239	26.5	5	-B	3	C		33		F
241 PALE	28	2138E	2138U	2138D	N18	E65	.899	16252	2.8		-B	2	C		45		FDE ZX
GRP77242	28	2148+3	2156+1	2234	N04	W32	.530	16239	26.5	46	1B				250	2.9	JU
VORO	28	2139	2157	2234	N05	W33	.543	16239	26.4	55	1N	*	C	2157	367	4.4	EJ
CULG	28	2148	2156	2236	N04	W23	.392	16239	27.2	48	1B	*	C	2156	230	2.8	
HOLL	28	2151	2156	2251	N04	W36	.587	16239	26.2	60	1B	*	C		277		U F
BIGB	28	2151	2157	2230	N06	W32	.527	16239	26.5	39	-B	*	C	2157	70	.9	
243 HOLL	28	2153	2203	2224	S30	W36	.774	16241	26.2	31	-N	3	C		36		DE ZX
244 HOLL	28	2203	2224	2246	N19	E57	.834	16252	2.2	43	-B	3	C		61		F ZX
GRP77245	28	2234+2	2236+1	2246	N06	W40	.639	16239	25.9	12	-N				60	.8	U
HOLL	28	2151	2236	2251	N04	W36	.587	16239	26.2	60	-B	*	C		70		U F
CULG	28	2234	2236	2236D	N08	W41	.651	16239	25.9	2D	-N	*	C	2236	60	.8	
VORO	28	2235	2237	2246	N05	W42	.667	16239	25.8	11	1F	*	C	2241	161	2.1	E
BIGB	28	2236	2237	2246	N07	W40	.639	16239	25.9	10	-B	*	C	2237	30	.4	
246 VORO	28	2350	2351	2359	N07	W34	.555	16239	26.4	9	-F		C	2351	45	.5	D ZX

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS		MEASUREMENTS			REMARKS
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX LON. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		CONC	TYPE	TIME UT	MEAS. AREA Millionths of Disk	CORR. AREA Sq. Deg.	
GRP77248	29	0030+2	0032+1	0042	N10	E70	.935	16260	4.3	12	-N						
CULG	29	0030	0032	0041	N10	E70	.935	16260	3.3	11	-N		C	0032	80		
BIGB	29	0032	0033	0042	N10	E70	.935	16260	3.3	10	-N	1	C	0033	20		
249 BIGB	29	0038	0041	0115	N19	W44	.695	16238	25.7	37	-F	3	C	0041	40	.6	ZX
GRP77250	29	0100+0	0101+1	0119	N17	E56	.824	16252	3.2	19	-N				40	.7	
CULG	29	0100U	0102	0124	N18	E56	.824	16252	2.2	24D	-N		C	0102	50	.9	
BIGB	29	0100	0101	0114	N16	E57	.833	16252	2.3	14	-B	1	C	0101	30	.6	
251 CULG	29	0100U	0103	0216	N03	W35	.575	16239	26.4	76D	-N		C	0103	140	1.7	T ZX
252 CULG	29	0123U	0124	0226	N29	W44	.729	16237	25.8	63D	-N		C	0124	80	1.4	FL ZX
253 PURP	29	0134	0136	0136D	N22	E57	.837	16252	2.3	2D	-F		P				ZX
254 CULG	29	0238	0242	0259	N04	W34	.559	16239	26.6	21	-N		C	0242	50	.6	T ZX
255 ISTA	29	0611		0622	N23	E90	.999	16263	5.0	11	-F		V	0615			AD ZX
256 ISTA	29	0617		0626	N19	E58	.843	16252	2.6	9	-N		V	0619			EF ZX
257 ISTA	29	0657		0712	S23	W81	.502	16253	29.2	15	-N		V				FU ZX
258 ABST	29	0716	0718	0725	N07	W52	.783	16239	25.4	9	-F		C	0718	87	1.4	DJ ZX
GRP77259	29	0740+5	0748+0	0810	N20	E90	.999	16263	6.1	30	1N						AF
ISTA	29	0740		0817	N21	E90	.999	16263	5.1	37	2B		V	0745			AF
KANZ	29	0742	0748	0803	N20	E90	.999	16263	5.1	21	-B	2					
MONT	29	0745	0748	0758D	N19	E90	.959	16263	5.1	13D	-F		C	0748	50		
260 ISTA	29	0804		0813	N14	E90	1.000	16264	5.1	9	-F		V				AD ZX
261 ZURI	29	1036	1036	1038	N12	E64	.892	16260	3.2	2	-F		C	1036	60	1.4	ZX
GRP77262	29	1200+3	1204+1	1213	N23	E45	.720	16252	2.9	13	-F				45	.7	E
ZURI	29	1200E	1204	1210	N23	E45	.720	16252	1.9	10D	-F		P	1204	60	.9	
HTPR	29	1203	1205	1215	N23	E46	.730	16252	2.0	12	-F		C	1205	30	.5	E
GRP77263	29	1202+9	1210+1	1222	N18	W36	.598	16238	26.8	20	-N						E
ZURI	29	1202	1210	1220	N19	W36	.601	16238	26.8	18	-N		C	1210	110	1.4	
HTPR	29	1206	1210	1222	N18	W36	.598	16238	26.8	16	-F		C	1210	30	.4	E
WEND	29	1207		1209D	N19	W36	.601	16238	26.8	2D	-N		C	1209	75	1.0	
RAMY	29	1211	1211	1229	N18	W35	.585	16238	26.9	18	-N	3	C		23		
264 BIGB	29	1430	1447	1451	N19	E70	.932		3.9	21	-N	3	C	1447	90		A ZX
265 BIGB	29	1504	1519	1550	N19	E70	.932		3.9	46	-N	3	C	1519	100		ZX
266 BIGB	29	1554	1558	1603	N19	E70	.932		3.9	9	-B	3	C	1558	50		ZX
267 BIGB	29	1558	1559	1606	S15	E65	.928	16261	3.5	8	-N	3	C	1559	30		ZX
268 BIGB	29	1606	1609	1621	N19	E70	.932		3.9	15	-B	3	C	1609	60		ZX
GRP77269	29	1651+2	1655	1720	S28	E15	.616	16251	30.8	29	-B				100	1.2	
WEND	29	1651		1719	S28	E15	.616	16251	30.8	28	-B		C	1656	113	1.4	F
BIGB	29	1653	1655	1721	S30	E15	.640	16251	30.8	28	-B	3	C	1655	90	1.0	
PALE	29	1715E	1715U	1720	S27	E13	.593	16251	30.7	5D	-N	2	C		20		DE
270 BIGB	29	1721	1727	1736	S16	W90	1.001	16231	23.0	15	-N	3	C	1727	30		ZX
271 BIGB	29	1755	1800	1815	N19	E69	.926		3.9	20	-B	3	C	1800	60		ZX
272 BIGB	29	1837	1840	1849	N19	E69	.926		4.0	12	-B	3	C	1840	70		ZX
273 BIGB	29	1858	1859	1907	N19	E69	.926		4.0	9	-B	3	C	1859	40		ZX
274 BIGB	29	1915	1919	1932	N19	E69	.926		4.0	17	-B	3	C	1919	30		ZX
GRP77275	29	1925	1931	2013	N05	W44	.692	16239	26.5	48	-F						D
BIGB	29	1925	1931	2013	N05	W44	.692	16239	26.5	48	-N	3	C	1931	60	.9	
HUAN	29	1926E		1933D	N05	W45	.704	16239	26.4	7D	-F	1	P				D

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS	
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX LONG. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		CONF.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.		
GRP77276	29	1943+8	1954 2011+8	2043	N21	E81	.982	16263	5.9	60	-N				30			
HOLL	29	1943	2011	2037	N23	E77	.967	16263	4.6	54	-F	3	C		25			
BIGB	29	1951	1954	1959	N20	E85	.992	16263	5.2	8	-B	3	C	1954	60			
BIGB	29	2008	2011	2049	N20	E85	.992	16263	5.2	41	-B	3	C	2011	30			
277 BIGB	29	2023	2038	2106	N28	E65	.900	16252	3.7	43	-B	3	C	2038	90			ZX
278 BIGB	29	2224	2225	2235	S34	W64	.957		25.1	11	-N	3	C	2225	30	.7		ZX
279 BIGB	29	2235	2238	2308	N28	E67	.914		4.0	25	-F	3	C	2238	30			ZX
280 PALE	29	2252	2252	2305	S33	W48	.872	16241	26.4	13	?N	3	C		200		F	ZX
	IMP.1 NO 1 BIGB																	
GRP77281	29	2252+8	2253+8	2308	N05	W51	.774	16239	26.1	16	-B				70	1.1		
BIGB	29	2252	2253	2312	N05	W44	.692	16239	26.7	20	-N	3	C	2253	60	.9		
PALE	29	2252	2253	2307	N04	W51	.775	16239	26.1	15	-B	3	C		66		DE	
HOLL	29	2257E	2257U	2308	N05	W52	.785	16239	26.1	11D	-B	1	C		147			
282 BIGB	29	2311	2312	2314	S33	W65	.959		25.1	3	-N	3	C	2312	20			ZX
283 PALE	30	0047E	0049U	0058D	N17	W42	.671	16238	26.9	3D	-N	1	C		28		DE	ZX
	30	0147	0209	NO FLARE PATROL														
	30	0234	0240	NO FLARE PATROL														
	30	0258	0340	NO FLARE PATROL														
284 CULG	30	0345E	0346	0400D	S22	W12	.522	16253	29.3	15D	-N		P	0346	40	.5		ZX
285 ABST	30	0602	0608	0615	N17	W20	.372	16258	28.8	13	-F		C	0608	87	.9	D	ZX
GRP77286	30	0743+2	0744+1	0754	N07	W51	.773	16239	26.5	11	-N				80	1.3		
MONT	30	0743	0745	0749	N06	W51	.773	16239	26.5	6	-F		C	0745	70			
ZURI	30	0744	0744	0754	N07	W51	.773	16239	26.5	10	-F		C	0744	90	1.5		
KANZ	30	0745	0745	0757	N07	W51	.773	16239	26.5	12	-B	2						
287 TELV	30	0838	0848	0917	S38	W08	.716		29.8	39	-N	3	C		20	.2		ZX
288 TELV	30	0839	0849	0905	S38	E07	.715		30.9	26	-B	3	C	0849	27	.3	E	ZX
289 MCMA	30	1343E	1348	1400D	N17	W25	.443	16258	28.7	17D	-N		C	1348	80	.9	E	ZX
290 MCMA	30	1403	1405	1410	N21	W53	.798	16238	26.6	7	-F		C	1405	30	.5	D	ZX
GRP77291	30	1410>9	1418 1430+2	1441	N20	E70	.932	16263	5.8	31	-F						EK	
MCMA	30	1410	1432	1439D	N18	E70	.932	16263	4.8	29D	-N		C					
MCMA	30	1410	1418	1439D	N18	E70	.932	16263	4.8	29D	-N		C	1432	60	1.8	EK	
ZURI	30	1416	1432	1440D	N20	E70	.932	16263	4.8	24D	1F		P	1432	100			
HTPR	30	1425	1430	1441	N20	E70	.932	16263	4.9	16	-F		C	1430	20			
GRP77292	30	1443+2	1447	1450	N20	E70	.932	16263	5.9	7	-F				35			
HUAN	30	1443		1447D	N20	E70	.932	16263	4.9	4D	-N	1	P	1447	40		T	
HTPR	30	1445	1447	1450	N20	E70	.932	16263	4.9	5	-F		C	1447	30			
GRP77293	30	1516+1	1520	1534	N20	E69	.926	16263	5.8	18	-F				25			
HUAN	30	1516		1542	N20	E70	.932	16263	4.9	26	-N	1	C	1518	30			
HTPR	30	1517	1520	1525	N20	E69	.926	16263	4.8	8	-F		C	1520	20			
GRP77294	30	1547+8	1557+4	1654D	N20	E70	.932	16263	5.9	67	-B				60		EHKS	
KANZ	30	1414	1601	1700D	N19	E70	.932	16263	4.8	166D	1B	2					K	
HTPR	30	1547		1718D	N20	E69	.926	16263	4.8	91D	-B		C	1558	70			
MCMA	30	1552	1557	1654D	N18	E70	.932	16263	4.9	62D	-B		C	1557	50	1.5	EHS	
HUAN	30	1555		1630	N20	E70	.932	16263	4.9	35	-N	1	C	1611	40			
WEND	30	1557E		1640D	N20	E69	.926	16263	4.8	43D	1B		C	1612	94			
GRP77295	30	1655	1716+1 1800+2	1820D	N21	E66	.907	16263	5.7	85	1B						EK	
MCMA	30	1655	1802	1820D	N18	E70	.932	16263	5.0	85D	-B		C					
MCMA	30	1655	1716	1820D	N18	E70	.932	16263	5.0	85D	-B		C	1802	50	1.5	EK	
HOLL	30	1657E	1812	1813D	N21	E62	.878	16263	4.4	76D	1N	3	V		267			
PALE	30	1712	1800	1824	N21	E68	.920	16263	4.8	72	1B	3	C		151		DE	
PALE	30	1712	1717	1824	N21	E68	.920	16263	4.8	72	-F	3	C		56		DE	
HOLL	30	1812E	1812	2001	N21	E65	.900	16263	4.6	109D	1N	3	C		267			

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX WEST DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		CONF.	TYPE	TIME UT	MEAS. AREA Millionths of Disk	CORR. AREA Sq. Deg.	
GRP77296	30	1821>9	1839+0	2016	N21	E67	.914	16263	5.8	115	1B						E
HOLL	30	1812E	1839	2016	N21	E65	.908	16263	4.6	1240	1N	3	C		188		
HCMA	30	1821	1839	2047	N18	E70	.932	16263	5.8	146	-B		C	1839	40	1.2	E
PALE	30	1839	1839	1908	N21	E67	.914	16263	4.8	29	-B	3	C		119		DE
GRP77297	30	2022+1	2030+1	2044	N21	E66	.907	16263	5.8	22	-N				25		
HCMA	30	1821	2030	2047	N18	E70	.932	16263	5.8	146	-B		C				
HUAN	30	2022		2042	N21	E65	.908	16263	4.7	20	-N	1	C	2030	30		
HOLL	30	2023	2031	2044	N22	E66	.907	16263	4.8	21	-N	3	C		23		
GRP77298	30	2120>9	2120 2136+0	2150	N05	W64	.896	16239	26.1	30	-N						
CULG	30	2120E	2120U	2150	N08	W70	.935	16239	25.6	300	1F		P	2120	120	3.0	B
HOLL	30	2124	213E	2203	N05	W62	.880	16239	26.2	39	-B	3	C		81		
PALE	30	2132	2136	2142	N04	W64	.897	16239	26.1	10	-N	3	C		34		DE
GRP77299	30	2132+4	2134+2	2147	N20	E65	.908	16263	5.8	15	-N				50		
CULG	30	2132	2134	2152	N19	E64	.892	16263	4.7	20	-N		C	2134	40	.9	
PALE	30	2136	2136	2141	N21	E66	.907	16263	4.9	5	-N	3	C		59		DE
300 CULG	30	2222	2224	2233	S33	W66	.963	16241	26.0	11	-N		C	2224	30		ZX
301 CULG	30	2251	2254	2303	N07	W75	.963	16239	25.3	12	-F		C	2254	40		ZX
GRP77302	30	2319+6	2327+0	2341	N20	E64	.892	16263	5.8	22	-N						
CULG	30	2319	2327	2341	N19	E65	.899	16263	4.8	22	-F		C	2327	60	1.4	T
HOLL	30	2325	2327	2341	N21	E64	.893	16263	4.8	16	-B	3	C		14		
GRP77303	30	2352+2	2359+2	0016	N20	E65	.900	16263	5.9	24	-N				70		
BIGB	31	0000E	0001	0016	N20	E65	.900	16263	4.9	160	-N	3	P	0001	50		
CULG	30	2352	2401	0016	N19	E65	.899	16263	4.9	24	1N		C	2401	100	2.3	T
HOLL	30	2354	2359	0017	N22	E64	.893	16263	4.8	23	-B	3	C		51		
304 CULG	31	0001	0005	0017	N03	W70	.938	16239	25.8	16	-F		C	0005	30		ZX
GRP77305	31	0023+3	0027+0	0033	N18	W56	.824	16238	26.8	10	-F				35	.6	U
CULG	31	0023	0027	0033	N20	W58	.844	16238	26.7	10	-F		C	0027	40	.7	
HOLL	31	0026	0027	0033	N16	W54	.804	16238	27.0	7	-N	3	C		25		U
GRP77306	31	0045+2	0048+2	0055	N21	E64	.893	16263	5.8	10	-N				30	.7	
MANI	31	0045	0048	0055	N20	E63	.885	16263	4.8	10	-N	3	V		30		
HOLL	31	0047	0050	0054	N21	E64	.893	16263	4.8	7	-N	2	C		26		
PALE	31	0048E	0048U	0052D	N21	E64	.893	16263	4.8	40	-N	3	C		29		DE
GRP77307	31	0121	0131 0154	0207	S35	W69	.976	16241	25.9	46	-N						
CULG	31	0121	0131	0150	S33	W69	.973	16241	25.9	29	-N		C	0131	30		
CULG	31	0146	0154	0207	S38	W70	.982	16241	25.8	21	-F		C	0154	40		
308 CULG	31	0146	0158	0215	N06	W80	.983	16239	25.1	29	-N		C	0158	30		ZX
309 CULG	31	0248	0250	0251D	N18	E61	.868	16263	4.7	30	-N		P	0250	80	1.6	T ZX
310 PURP	31	0313E	0313	0315	N20	E62	.877	16263	4.8	20	?N		P				ZX
	IMP.1 NO 1 FALE YUNN																
311 ABST	31	0519	0528	0540	N16	E63	.884	16263	4.9	21	?F		C	0528	131		FJ ZX
	IMP.1 NO 1 YUNN TACH																
GRP77312	31	0630+7	0639+3	0657	N18	W58	.843	16238	26.9	27	-N				60	1.2	EJ
CULG	31	0630	0639	0658	N18	W58	.843	16238	26.9	28	-N		P	0639	30	.6	
WEND	31	0631		0657	N19	W58	.843	16238	26.9	26	-N		C	0642	70	1.8	
HTPR	31	0632	0642	0657	N17	W57	.823	16238	27.0	25	-F		C	0642	60	1.8	E
ABST	31	0637	0641	0655	N20	W60	.861	16238	26.8	18	1N		C	0641	131	2.5	EJ
ISTA	31	0648E		0657	N18	W59	.851	16238	26.9	90	-F		V				E
313 HTPR	31	0648	0649	0655	N18	E57	.834	16263	4.6	7	-F		C	0649	60	1.0	ZX
GRP77314	31	0657+6	0701	0718	N07	W77	.972	16239	25.5	21	-F				70		DJ
ABST	31	0657	0701	0718	N07	W86	.996	16239	24.8	21	1F		C	0701	87		DJ
WEND	31	0659		0730	N07	W77	.972	16239	25.5	31	-N		C	0705	50		D
ISTA	31	0703		0708	N07	W74	.958	16239	25.7	5	-F		V				D

Hα SOLAR FLARES

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OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX LONG. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		CONF.	TYPE	TIME UT	MEAS. AREA Mill of Disk	CORR AREA Sq. Deg.	
GRP77315	31	0718>9	0722+1	0729	N18	E59	.851	16263	5.7	19	-F				90	1.8	DJ
YUNN	31	0710	0723	0730	N19	E59	.852	16263	4.7	20	1F		C		112		
HTPR	31	0717	0722	0730	N18	E57	.834	16263	4.6	13	-F		C	0722	40	.7	
ISTA	31	0718		0725	N19	E60	.860	16263	4.8	7	-F		V				D
ABST	31	0720	0723	0728	N16	E65	.899	16263	5.2	8	-N		C	0723	87		DJ
GRP77316	31	0745+5	0757+2 0805+1	0810	N19	E59	.852	16263	5.7	25	1F				120	2.4	E
WEND	31	0745	0759	0816	N20	E58	.844	16263	4.7	31	1N		C	0759	120	3.2	
ZURI	31	0746	0806	0808	N19	E58	.843	16263	4.7	22	-N		C	0806	50	1.0	
YUNN	31	0746	0758	0810	N19	E62	.877	16263	5.0	24	1F		C		161		
MONT	31	0748E	0757	0812	N20	E61	.869	16263	4.9	240	-F		C	0757	50		E
HTPR	31	0750	0805	0808	N18	E56	.824	16263	4.5	18	-F		C	0805	30	.5	
317 HTPR	31	0828	0831	0834	N18	E56	.824	16263	4.6	6	-F		C	0831	20	.3	ZX
318 ZURI	31	0832	0840	0856	N08	W70	.935	16239	26.1	24	-F		C	0840	70		ZX
319 ZURI	31 IMP.1 NO 1 HTPR	0846	0852	0856 MONT	N20	E62	.877	16263	5.0	10	?F		C	0852	140	3.0	ZX
GRP77320	31	0906+1	0908+0	0914	N18	E56	.824	16263	5.6	8	-N				40	.7	D
ZURI	31	0906	0908	0914	N19	E57	.834	16263	4.7	8	-N		C	0908	50	1.0	
HTPR	31	0907	0908	0913	N18	E55	.815	16263	4.5	6	-F		C	0908	20	.3	
WEND	31	0910E		0912D	N18	E56	.824	16263	4.6	2D	-N		C	0910	50	1.0	D
321 ZURI	31	1032	1034	1034	N04	W66	.912	16239	26.5	2	-F		C	1034	60		ZX
322 ZURI	31	1050	1050	1052	N04	W66	.912	16239	26.5	2	-F		C	1050	50		ZX
323 TELV	31	1050	1053	1055	N38	W68	.929		26.4	5	-N	3	C		20		ZX
GRP77324	31	1110+0	1112+0	1117	N19	E55	.816	16263	5.6	7	-N				70	1.3	
HTPR	31	1110	1112	1116	N18	E54	.805	16263	4.5	6	-N		C	1112	50	.9	
ZURI	31	1110	1112	1118	N19	E57	.834	16263	4.7	8	-B		C	1112	100	1.9	
KANZ	31	1114E		1117	N19	E55	.816	16263	4.6	3D	-N	1					
325 ZURI	31	1112	1120	1128	N17	E20	.372	16252	2.0	16	-F		C	1120	50	.6	ZX
GRP77326	31	1210+6	1218+2	1242	N11	E60	.860	16264	6.0	32	-N						
KANZ	31	1210	1218	1244	N11	E60	.860	16264	5.0	34	-N	1					T
ZURI	31	1216	1220	1240	N12	E61	.868	16264	5.1	24	1F		C	1220	150	3.3	
327 HOLL	31	1340	1359	1408	N12	E59	.851	16264	5.0	28	-B	3	C		95		F ZX
328 ZURI	31	1400	1400	1406	N01	W81	.988	16239	25.5	6	-F		C	1400	50		ZX
GRP77329	31	1426+0	1436+3 1453+4	1512	N12	E61	.868	16264	6.2	46	-N						
HOLL	31	1409	1436	1801	N13	E59	.850	16264	5.0	232	1N	3	C		166		
ZURI	31	1426	1436	1442	N12	E60	.859	16264	5.1	16	1N		C	1436	250	5.5	
BIGB	31	1426	1439	1507	N11	E59	.851	16264	5.0	41	-N	3	C	1439	50	1.0	
KANZ	31	1426	1438	1505	N10	E60	.860	16264	5.1	39	-N	2					
HUAN	31	1426		1435	N13	E59	.850	16264	5.0	9	-F	1	C				
LOCA	31	1430E	1430	1505	N12	E60	.859	16264	5.1	35D	-N		V	1430	82	1.7	
WEND	31	1431E		1548	N13	E62	.876	16264	5.3	77D	-N	*	C	1450	90	2.0	T
ZURI	31	1448	1450	1450D	N12	E62	.876	16264	5.3	2D	-F	*	P	1450	90	2.0	
KANZ	31	1449	1457	1513	N11	E65	.900	16264	5.5	24	-N	*					
HUAN	31	1449		1506	N13	E64	.892	16264	5.4	17	-F	1	C	1457	20	.4	D
HTPR	31	1450	1453	1510	N12	E58	.842	16264	5.0	20	-F		C	1453	20	.3	
BIGB	31	1451	1456	1515	N12	E63	.884	16264	5.3	24	-N	*	C	1456	20	.5	
GRP77330	31	1522+2	1527+2	1551	N11	E60	.860	16264	6.1	29	-F						
HUAN	31	1522		1545	N11	E60	.860	16264	5.1	23	-F	*	C				
KANZ	31	1523	1527	1551	N10	E58	.842	16264	5.0	28	-F	*					
BIGB	31	1524	1529	1650	N11	E60	.860	16264	5.1	86	-N	*	C	1529	60	1.2	
GRP77331	31	1701+7	1712+1	1722	N12	E58	.842	16264	6.1	21	-N				45	.9	
BIGB	31	1701	1712	1722	N11	E59	.851	16264	5.1	21	-N	*	C	1712	40	.8	
HUAN	31	1704		1721	N12	E58	.842	16264	5.1	17	-F	*	C				
PALE	31	1708	1713	1728	N12	E55	.813	16264	4.8	20	-N	*	C		46		FDE
GRP77332	31	1732	1733+2 1808	1820	N12	E59	.851	16264	6.2	48	-B				60	1.2	
HOLL	31	1409	1733	1801	N13	E59	.850	16264	5.0	232	-B	*	C		84		
BIGB	31	1732	1735	1837	N11	E59	.851	16264	5.2	65	-B	*	C	1735	50	1.0	
BIGB	31	1805	1808	1839	N11	E59	.851	16264	5.2	34	-N	*	C	1808	50	1.0	

Hα SOLAR FLARES

AUGUST 1979

OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS		MEASUREMENTS			REMARKS
	DATE	START	MAX. PHASE	END	APPROX LAT.	APPROX LONG.	CENTRAL DISTANCE	SOLRADTH FLARE REGION	CARR DAY	MIN.		CONG	TYPE	TIME UT	MEAS. AREA mill. of Disk	CORR. AREA Sq. Deg.	
333 BIGB	31	1750	1803	1823	S35	W78	.978	16241	26.5	25	-N	3	C	1803	30		ZX
GRP77334	31	1802+1	1803+1	1820	S01	W68	.929	16239	26.7	18	-N				25		
HOLL	31	1802	1803	1824	N02	W67	.920	16239	26.7	22	-N	3	C		21		
BIGB	31	1803	1804	1816	S05	W70	.945	16239	26.5	13	-N	3	C	1804	30		
335 BIGB	31	1806	1807	1816	N20	E56	.826	16263	5.0	10	-B	3	C	1807	20	.4	ZX
336 HOLL	31	1843	1847	1851	N16	W39	.631	16258	28.9	8	-B	3	C		20		ZX
GRP77337	31	1843+6	1851+1	1934	S19	E90	1.001	16267	8.5	21	-N						
BIGB	31	1843	1852	1905	S20	E90	1.001	16267	7.5	22	-B	*	C	1852	40		
HOLL	31	1849	1851	1902	S19	E90	1.001	16267	7.5	13	-N	*	C				
338 BIGB	31	1850	1855	2002	N11	E59	.851	16264	5.2	72	-N	3	C	1855	50	1.0	ZX
339 HOLL	31	1918	1919	1932	N04	W73	.955	16239	26.3	14	-B	3	C		38		ZX
340 HOLL	31	1943	1944	1952	N04	W73	.955	16239	26.3	9	-N	3	C		27		ZX
341 BIGB	31	2013	2023	2115	N11	E58	.842	16264	5.2	62	-N	3	C	2023	60	1.2	ZX
GRP77342	31	2016+4	2019+3	2032	N19	E52	.786	16263	5.7	16	-B				40	.7	E
HOLL	31	2016	2019	2036	N21	E53	.798	16263	4.8	20	-B	3	C		64		DE
PALE	31	2018	2019	2026	N18	E51	.775	16263	4.7	8	-N	3	C		35		
BIGB	31	2018	2020	2036	N19	E51	.776	16263	4.7	18	-B	3	C	2020	30	.5	
MCMA	31	2018	2019	2031	N18	E53	.795	16263	4.8	13	-B		C	2019	40	.7	E
HUAN	31	2020	2022	2028	N20	E52	.787	16263	4.7	8	-N	2	C	2022	30	.4	E
GRP77343	31	2110+1	2111+1	2118	N18	E51	.775	16263	5.7	8	-N				25	.4	
BIGB	31	2110	2111	2122	N19	E51	.776	16263	4.7	12	-N	3	C	2111	30	.5	
PALE	31	2111	2112	2113	N18	E51	.775	16263	4.7	2	-N	3	C		17		FDE
GRP77344	31	2231+0	2231+0 2248+3	2259	N20	E52	.787	16263	5.8	28	-N				70	1.2	
HOLL	31	2231	2251	2307	N22	E52	.798	16263	4.8	36	-B	*	C		110		DE
HOLL	31	2231	2231	22580	N22	E52	.798	16263	4.8	270	-N	*	V		40		DE
HOLL	31	2231	2231	2307	N22	E52	.798	16263	4.8	36	-N	*	C				DE
CULG	31	2242	2248	2301	N18	E49	.763	16263	4.6	19	-N	*	C	2248	60	.9	T
BIGB	31	2245	2249	2302	N19	E52	.843	16263	5.3	17	-N	*	C	2249	40	.8	
PALE	31	2247	2250	2252	N18	E50	.764	16263	4.7	5	-N	*	C		67		DE
MANI	31	2250E	2250U	2255	N21	E53	.798	16263	4.9	50	-B	*	C		80		F
345 BIGB	31	2237	2239	2241	N06	W78	.976	16239	26.1	4	-N	3	C	2238	40		ZX
346 CULG	31	2336	2339	2347	N06	W81	.986	16239	25.9	11	-F		C	2339	10		ZX

"REMARKS":

A = Eruptive prominence whose base is less than 90° from central meridian.
B = Probably the end of a more important flare.
C = Invisible 10 minutes before.
D = Brilliant point.
E = Two or more brilliant points.
F = Several eruptive centers.
G = No visible spots in the neighborhood.
H = Flare accompanied by high-speed dark filament.
I = Active region very extended.
J = Distinct variations of plage intensity before or after the flare.
K = Several intensity maxima.
L = Existing filaments show signs of sudden activity.
M = White-light flare.
N = Continuous spectrum shows effects of polarization.
O = Observations have been made in the H and K lines of CaII.
P = Flare shows helium D3 in emission.
Q = Flare shows Balmer continuum in emission.
R = Marked asymmetry in H-alpha line suggests ejection of high-velocity material.
S = Brightness follows disappearance of filament in same position.
T = Region active all day.
U = Two bright branches, parallel or converging.
V = Occurrence of an explosive phase: important, expansion within roughly 1 minute that often includes a significant intensity increase.
W = Great increase in area after time of maximum intensity.
X = Unusually wide H-alpha line.
Y = System of loop-type prominences.
Z = Major sunspot umbra covered by flare.

DAILY FLARE INDICES

Includes all Flares

AUGUST 1979

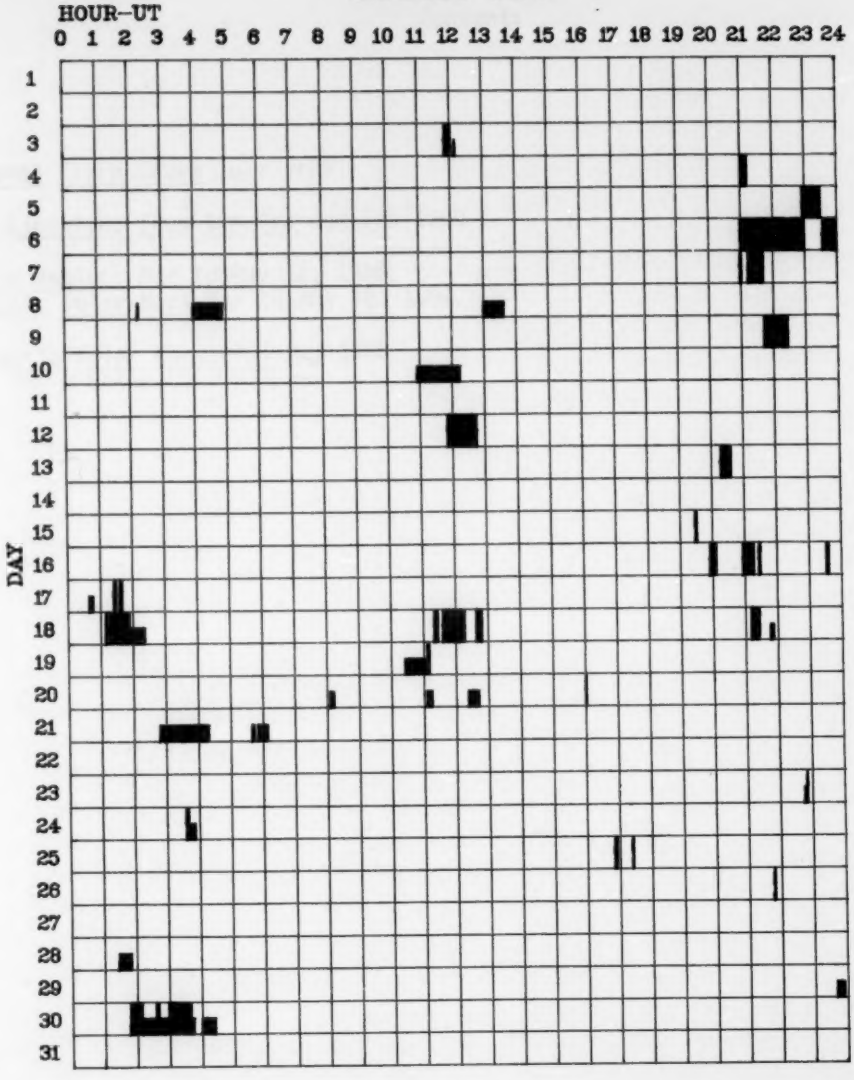
Date	Flare Index	HR. OBS.	Date	Flare Index	HR. OBS.	Date	Flare Index	HR. OBS.
790801.	103.39	24.0	790812.	51.08	23.1	790823.	108.68	24.0
790802.	58.35	24.0	790813.	57.95	23.7	790824.	174.69	23.9
790803.	38.19	23.8	790814.	133.89	24.0	790825.	179.21	23.9
790804.	29.82	23.8	790815.	101.66	24.0	790826.	352.24	24.0
790805.	18.91	23.4	790816.	114.43	23.3	790827.	187.73	24.0
790806.	7.18	21.6	790817.	21.96	23.8	790828.	216.81	24.0
790807.	12.91	23.5	790818.	45.27	22.2	790829.	53.74	24.0
790808.	21.80	24.0	790819.	64.86	23.9	790830.	51.45	22.8
790809.	27.24	23.1	790820.	154.45	24.0	790831.	61.12	24.0
790810.	213.49	24.0	790821.	577.82	24.0			
790811.	42.12	24.0	790822.	97.39	24.0			

When no Flare Index is given, it is 0 for that day.

INTERVALS OF NO FLARE PATROL OBSERVATION

FOR PRECEDING SOLAR FLARE TABLE

AUGUST 1979



Observatories included in total patrol:

Abastumani	Culgoora	Kanzelhöhe	Manila	Tashkent
Athens	Haute-Provence	Kharkov	McMath-Hulbert	Tel Aviv
Big Bear	Huancayo	Kiev	Mitaka	Voroshilov
Bucharest	Istanbul	Locarno	Monte Mario	Wendelstein
Catania	Kandilli	Lvov	Purple Mt.	Yunnan
				Zürich

Times of no flare patrol are shown by the shaded area for each day divided into times of no cinematographic patrol (bottom half of day) and times of neither visual nor cinematographic patrol (top half of day).

MISCELLANEOUS DATA

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REGIONAL FLARE INDEX

Includes all Flares

JULY 1979

MC MATH PLAGE NO.	LAT	CMP DATE	DATE FIRST FLARE	DATE LAST FLARE	FLARE-INDEX SUM	FLARE-INDEX MEAN	TOTAL NO. OF FLARES
16126	N10	79/07/02.7	79/07/02	79/07/08	27.40	3.91	6
16108	N19	79/07/02.8	79/06/27	79/07/05	28.28	3.14	9
16111	N 6	79/07/04.0	79/06/28	79/07/07	189.55	18.96	13
16117	N16	79/07/04.2	79/06/27	79/07/09	189.72	14.59	50
16112	S24	79/07/05.4	79/06/27	79/07/10	154.21	11.01	33
16118	S15	79/07/05.6	79/06/30	79/07/09	63.81	6.38	22
16115	N 4	79/07/05.9	79/06/28	79/07/12	36.08	2.81	17
16119	N15	79/07/06.9	79/06/30	79/07/09	22.85	2.29	10
16120	N24	79/07/07.6	79/06/30	79/07/14	24.30	1.62	10
16122	N10	79/07/08.0	79/07/01	79/07/13	384.30	29.56	46
16121	N17	79/07/08.5	79/07/01	79/07/11	46.57	4.23	7
16123	N18	79/07/09.9	79/07/03	79/07/16	299.57	21.40	70
16124	S16	79/07/10.3	79/07/04	79/07/10	44.68	6.38	13
16125	S27	79/07/10.4	79/07/04	79/07/11	72.43	9.05	22
16127	N28	79/07/11.7	79/07/07	79/07/15	131.69	14.63	25
16157	S14	79/07/12.0	79/07/18	79/07/18	.84	.84	1
16130	N 7	79/07/12.2	79/07/11	79/07/11	5.28	5.28	1
16150	S25	79/07/13.5	79/07/17	79/07/18	1.69	.84	2
16133	N12	79/07/14.8	79/07/10	79/07/18	67.57	7.51	17
16154	S19	79/07/15.0	79/07/18	79/07/19	3.83	1.92	2
16132	N23	79/07/15.2	79/07/19	79/07/19	1.95	1.95	1
16136	S30	79/07/16.5	79/07/13	79/07/20	5.28	.66	4
16160	N29	79/07/16.7	79/07/18	79/07/23	115.46	19.24	23
16137	S27	79/07/17.7	79/07/10	79/07/24	80.26	5.35	41
16161	N17	79/07/17.8	79/07/19	79/07/24	132.35	22.06	50
16165	N14	79/07/18.6	79/07/22	79/07/24	12.94	4.31	9
16144	S27	79/07/18.9	79/07/15	79/07/15	1.90	1.90	1
16139	N29	79/07/19.4	79/07/14	79/07/23	56.13	5.61	21
16147	N18	79/07/19.7	79/07/16	79/07/16	1.90	1.90	1
16155	S20	79/07/20.3	79/07/20	79/07/21	10.10	5.05	4
16148	S 4	79/07/21.4	79/07/17	79/07/24	85.84	10.73	24
16156	N32	79/07/22.1	79/07/18	79/07/26	178.22	19.80	39
16166	S 5	79/07/23.1	79/07/22	79/07/27	26.93	4.49	8
16163	N31	79/07/24.0	79/07/21	79/07/21	3.42	3.42	1
16153	N12	79/07/24.1	79/07/17	79/07/30	46.94	3.35	15
16164	S15	79/07/26.1	79/07/24	79/07/31	142.38	17.80	38
16167	N17	79/07/27.6	79/07/23	79/07/29	42.07	6.01	8
16190	N31	79/07/27.6	79/08/03	79/08/03	3.38	3.38	5
16169	S15	79/07/27.6	79/07/24	79/08/01	100.32	11.15	15
16196	N27	79/07/28.9	79/08/03	79/08/05	7.60	2.53	14
16171	N16	79/07/30.6	79/07/24	79/08/06	487.18	34.80	56

MASS EJECTIONS FROM THE SUN

JANUARY 1980

Station	Date 1980	Observed UT Start	Max	End	Location RA°	R/Ro	Wavelength	Type of Event
WEIS	Jan 03	1029.3		1035.0			Meter	II
LEAR	Jan 05	1023.0		1034.0			Meter	II
WEIS	Jan 05	1023.5		1032.5			Meter	II Harmonic
PALE	Jan 06	2111.5		2120.5			Meter	IV
CULG	Jan 06	2135.5		2138.5			Meter	II
CULG	Jan 06	2140		2400			Meter	IV Weak
CULG	Jan 07	0000		0220			Meter	IV Weak
CULG	Jan 07	0228		0241			Meter	II Herringbone
MITK	Jan 07	2335F		2353	064	0.98	H-alpha	A
DWIN	Jan 08	1008		1035			Decimeter	IV
WEIS	Jan 08	1010.5		1025.0			Meter	II Harmonic
BLEN	Jan 08	1009.5		1021.0			Decimeter; meter	II
LEAR	Jan 08	1013.8		1024.9			Meter	II
BLEN	Jan 08	1022.7		1035			Decimeter; meter	IV Pulsations
CULG	Jan 09	0032.5		0046.5			Decimeter; meter	II
CULG	Jan 10	0502.5		0710			Decimeter	IV
CULG	Jan 10	0507		0540			Meter	II
LEAR	Jan 10	0508.0		0516.0			Meter	II
LEAR	Jan 10	0510.4		0520.3			Meter	IV
CULG	Jan 10	0514		0739			Meter	IV
CULG	Jan 10	0515		0520			Dekameter	II
CULG	Jan 10	0533		0605			Dekameter	IV
WEIS	Jan 11	0810.3		0813.2			Meter	II Harmonic
DWIN	Jan 12	1123.9		1124.6			Decimeter	IV
CULG	Jan 14	2041		2131			Decimeter; meter	IV
HARV	Jan 14	2043		2118			Decimeter; meter	IV
CULG	Jan 14	2109		2111			Meter	Possible II
LEAR	Jan 16	0827.3		0835.0			Meter	II
DWIN	Jan 16	1011.3		1013.0			Decimeter	IV
HARV	Jan 16	2042		2052			Meter	II
CULG	Jan 16	2042		2052			Meter	II
LEAR	Jan 17	0816.3		0833.9			Meter	II
WEIS	Jan 17	0821.5		0830.5			Meter	II
MITK	Jan 20	0501		0549D	290	1.0	H-alpha	A
LEAR	Jan 21	0836.2		0845.5			Meter	II
HARV	Jan 23	1737		1743			Meter	II
LEAR	Jan 25	0841.0		0859.4			Meter	II
HARV	Jan 25	2058		2109			Decimeter; meter	IV
CULG	Jan 25	2058.5		2335			Decimeter	IV Pulsations
HARV	Jan 25	2100		2104			Meter; dekameter	II
CULG	Jan 25	2101		2111			Meter	II
HARV	Jan 25	2105		2113			Meter; dekameter	II
CULG	Jan 25	2111		2129.5			Meter	II Weak
HARV	Jan 25	2116		2320			Decimeter; meter	IV Intermittent
CULG	Jan 25	2128		2250			Meter	IV
PALE	Jan 25	2128.0		2135.4			Meter	II
CULG	Jan 25	2129		2143.5			Meter; dekameter	II
HARV	Jan 25	2137		2141			Meter; dekameter	II
CULG	Jan 25	2137		2141			Meter	II
MITK	Jan 27	0535		0723D	282	1.0	H-alpha	A
UDAI	Jan 27	0550	0610	0710D		SW limb	H-alpha	A
DWIN	Jan 27	1150		1158.5			Decimeter	IV
WEIS	Jan 27	1151.9		1208.8			Meter	II Harmonic
WEIS	Jan 27	1203		1415			Meter	IV
LEAR	Jan 31	0933.6		0936.4			Meter	II

MASS EJECTIONS FROM THE SUN

FEBRUARY 1980

Station	Date 1980	Observed UT Start	Max	End	Location RA°	R/Ro	Wavelength	Type of Event
BIGB	Feb 02	1539	1548	1608	062	1.0	H-alpha	SP
NRLC	Feb 03	1028			100-120	3.5	White light	Loop?
DWIN	Feb 03	1332		1350			Decimeter	IV
BLEN	Feb 03	1338.0		1530D			Decimeter; meter	IV Pulsations, fiber
HARV	Feb 03	1505		1530			Decimeter	IV
BIGB	Feb 03	2257	2308	2322	102	1.0	H-alpha	S
BIGB	Feb 03	2326	2328	2342	102	1.0	H-alpha	S
BIGB	Feb 03	2326	2328	2342	102	1.0	H-alpha	SP
BIGB	Feb 04	2114	2130	2207	103	1.0	H-alpha	SP
BIGB	Feb 05	2038	2132	2204	105	1.0	H-alpha	A
BIGB	Feb 05	2256	2330	2351	104	1.0	H-alpha	SP
DWIN	Feb 08	0904.8		0915.0			Decimeter	IV Fast drift
LEAR	Feb 08	0905.6		0917.0			Meter	IV
BLEN	Feb 08	0907.4		0917.4			Meter	II
WEIS	Feb 08	0909.0		0917.6			30-160 MHz	II Harmonic
LEAR	Feb 08	0910.5		0921.3			Meter	II
DWIN	Feb 08	0933.1		0933.5			Decimeter	IV Pulsations
CULG	Feb 09	0539		0543.5			Meter	II
HARV	Feb 10	1544		1551			Meter	II
BIGB	Feb 10	2020	2024	2028	104	1.0	H-alpha	S
CULG	Feb 10	2116.5		2129			Meter	II
LEAR	Feb 10	2342.1		2348.6			Meter	II
CULG	Feb 10	2343.5		2349			Meter	II
BIGB	Feb 10	2358	0009	0017D	108	1.0	H-alpha	S
BIGB	Feb 11	2034	2041	2051	284	1.0	H-alpha	S
HARV	Feb 11	2043		2051			Meter	II
CULG	Feb 11	2046		2058			Meter	II
BIGB	Feb 11	2139	2150	2201	286	1.0	H-alpha	S
BIGB	Feb 12	1936	2014	2041	118	1.0	H-alpha	S
WEND	Feb 15	0943E		1407D	282	0.99-1.04	H-alpha	A
HAOK	Feb 15	1855U			280		White light	EPL
CULG	Feb 15	2120		2127			Meter	Possible II
CULG	Feb 15	2121		2300			Meter	IV
LEAR	Feb 16	0738.0		0745.8			Meter	II
CULG	Feb 16	0738.5		0746			Meter	II Weak
WEIS	Feb 19	0945.3		0948.5			40-130 MHz	II Harmonic
HALE	Feb 21	2134E		2220D	103	1.0	H-alpha	A
WEND	Feb 22	0956		1243D	110-122	1.0-1.20	H-alpha	Q
BIGB	Feb 22	1707	1725	1757	284	1.0	H-alpha	A
BIGB	Feb 22	1859	1905	1931	076	1.0	H-alpha	A
CULG	Feb 22	2147		2153			Meter	Possible II
BIGB	Feb 23	1851	1901	1929	116	1.0	H-alpha	S
BIGB	Feb 23	1950	1957	2023	116	1.0	H-alpha	S
BIGB	Feb 23	2043	2049	2103	102	1.0	H-alpha	S
BIGB	Feb 23	2126	2130	2142	102	1.0	H-alpha	A
BIGB	Feb 23	2158	2300	2341	103	1.0	H-alpha	S
BIGB	Feb 23	2344	2350	0002	105	1.0	H-alpha	S
BIGB	Feb 23	2351	2359	0007	059	1.0	H-alpha	Q
MITK	Feb 24	0158		0258	104	1.0	H-alpha	A
CULG	Feb 24	0513		0523			Meter	II
WEND	Feb 24	0823	0832 0919	0936	105	1.10	H-alpha	S
WEND	Feb 24	1046	1052	1151	102-111	1.05	H-alpha	A
WEND	Feb 24	1208	1218	1225	104	1.01	H-alpha	A
WEND	Feb 24	1317	1323	1340	105	1.03	H-alpha	A
BIGB	Feb 24	1547	1602	1609	241	1.0	H-alpha	S
BIGB	Feb 24	1812	1813	1823	100	1.0	H-alpha	A
BIGB	Feb 24	1947E	2033	2048	108	1.0	H-alpha	A
BIGB	Feb 24	2148	2154	2231	290	1.0	H-alpha	S

MASS EJECTIONS FROM THE SUN

FEBRUARY 1980

Station	Date 1980	Observed UT Start	Max	End	Location RA°	R/Ro	Wavelength	Type of Event	
WEND	Feb 25	1018E	1041	1212D	106	1.02	H-alpha	A	
WEND	Feb 25	1543E		1610D	077	1.04	H-alpha	A	
BIGB	Feb 25	1614	1631	1702	085	1.0	H-alpha	S	
BIGB	Feb 25	1710	1722	1729	073	1.0	H-alpha	S	
BIGB	Feb 25	2101	2106	2112	108	1.0	H-alpha	A	
BIGB	Feb 25	2104	2137	2341	261	1.0	H-alpha	S	
WEND	Feb 26	1029		1226	102-112	0.99-1.04	H-alpha	A	
DWIN	Feb 26	1033.8		1034.2			Decimeter	IV	
BIGB	Feb 26	1748	1803	1827	115	1.0	H-alpha	S	
BIGB	Feb 26	1813	1819	1855	071	1.0	H-alpha	S	
BIGB	Feb 26	2106	2122	2134	127	1.0	H-alpha	Q	
CULG	Feb 27	0344.5		0357			Meter	II	
PALE	Feb 27	0345.3		0349.0			Meter	II	
PALE	Feb 27	0349.0		0423.0			Meter	IV	
CULG	Feb 27	0355		0405.5			Decimeter; meter	IV	Pulsations
WEIS	Feb 17	1140.0		1144.2			Meter	II	
LEAR	Feb 28	0146.2		0150.9			Meter	II	
BLEN	Feb 28	1205.0		1214.3			Decimeter; meter	II	Fast drift
DWIN	Feb 28	1205.0		1210.0			Decimeter	IV	
WEIS	Feb 28	1205.5		1210.5			170-500 MHz	II	Harmonic
WEIS	Feb 28	1214.3		1223.3			30-80 MHz	II	Harmonic
BIGB	Feb 29	1704	1718	1720U	085	1.0	H-alpha	SP	
BIGB	Feb 29	2027	2037	2044	104	1.0	H-alpha	A	
BIGB	Feb 29	2032	2036	2040	107	1.0	H-alpha	A	
BIGB	Feb 29	2208	2209	2214	083	0.99	H-alpha	S	
BIGB	Feb 29	2320	2330	2358	265	1.0	H-alpha	SP	

QUALIFIERS ON START, MAX AND END TIMES
D = event ended after the tabulated time
E = event began before the tabulated time
U = uncertain time

TYPE OF EVENT
A = eruptive active region prominence
CB = coronal cloud bubble
D = coronal depletions
E = coronal enhancement
EL = coronal expanding loop
II = Type II radio burst
IVm = moving Type IV radio burst
Q = eruptive quiescent prominence
R = coronal ray or streamer
S = flare-surge if there is a known flare association
SP = flare-spray if there is a known flare association
* = movement may be caused by ionospheric refraction

REPORTING STATIONS
BIGB = Big Bear
BLEN = Bleien
CULG = Culgoora
DWIN = Dwingeloo
GEOR = Georgiana
HALE = Haleakala
HAOC = High Altitude Observatory's SMM Coronagraph/Polarimeter
HAOK = High Altitude Observatory's MARK-III Coronameter at Mauna Loa
HARV = Harvard (Fort Davis)
LEAR = Learmonth
MANI = Manila
MITK = Mitaka
NRLC = Naval Research Laboratory's White-Light Coronagraph Experiment on P78-1
PALE = Palehua
SGMR = Sagamore Hill
WEIS = Weissenau
WEND = Wendelstein
UDAI = Udaipur

NOTE: Because only a small fraction of the data taken by satellite-borne coronagraph had been analyzed at the time this table was assembled, many events are defined solely by ground-based observatory reports.

ACTIVE REGIONS
CARRINGTON ROTATION 1693
(March 18 to April 15, 1980)

Region No.	Coordinates Lat.	Coordinates Long.	IMP	Age at CMP	Spot-less Region	Region No. in Rotation 1692	Activity at West Limb
1	26°N	347°	3	+3			decreasing
2	12 S	344	1	>6	x		decreasing
3	2 S	334	1	>6	x		dispersed
4	22 S	333	1	>6	x		decreasing
5	8 S	327	1	>6	x	3	dispersed
6	12 N	316	1	>6	x	6	dispersed
7	20 N	312	1	>6	x		dispersed
8	26 S	302	2	>6			decreasing
9	13 N	298	2	>6			decreasing
10	26 N	285	2	>6			decreasing
11	28 S	280	1	>6	x	10	decreasing
12	10 S	277	1	>6	x	11	dispersed
13	0	270	1	>6	x		decreasing
14	12 N	268	1	>6	x		decreasing
15	28 S	267	2	+3			decreasing
16	6 N	266	3	>6			decreasing
17	24 N	245	2	>6			dispersed
18	8 N	232	3	+2			decreasing
19	15 N	229	2	+4			decreasing
20	14 S	228	1	>6	x		decreasing
21	29 S	228	1	>6	x	17	dispersed
22	22 N	227	1	-5	x		(?)
23	12 N	220	2	>6			decreasing
24	27 S	219	3	>6			decreasing
25	11 S	218	2	0			decreasing
26	11 N	213	2	+6			disappeared
27	27 N	212	3	>6			decreasing
28	17 S	210	3	>6			decreasing
29	17 S	194	1	>6	x	25	decreasing
30	16 N	192	1	>6	x	27	dispersed
31	12 S	186	3	>6			decreasing
32	7 S	180	1	+1	x		dispersed
33	27 N	176	5	>6			decreasing
34	8 N	152	1	>6	x		decreasing
35	13 S	144	1	>6	x	29	decreasing
36	11 S	137	2	>6	x	30	decreasing
37	31 S	129	1	-4	x		(?)
38	13 S	120	1	+3	x		disappeared
39	12 N	105	7	+3			decreasing
40	21 S	95	1	>6	x		dispersed
41	15 N	93	2	+6			decreasing
42	23 N	87	7	>6			decreasing
43	18 N	77	1	>6	x	37	dispersed
44	25 N	68	1	-1	x		disappeared
45	18 S	60	1	>6	x	40	decreasing
46	11 S	58	1	>6	x		dispersed
47	17 N	56	1	>6	x	41	decreasing
48	14 S	45	1	>6	x		decreasing
49	20 S	39	3	>6		44	decreasing
50	38 N	37	1	+6	x		decreasing
51	47 S	37	1	+6	x		disappeared
52	40 N	29	1	+6	x		dispersed
53	29 S	19	6	>6			decreasing
54	8 S	15	6	>6			decreasing
55	24 N	7	1	>6	x		dispersed
56	15 S	2	2	-4			stable
57	10 N	1	2	>6			decreasing
58	10 S	0	1	+4	x		disappeared

ACTIVE REGIONS
CARRINGTON ROTATION 1694
(April 15 to May 12, 1980)

Region No.	Coordinates Lat.	Long.	IMP	Age at CMP	Spot-less Region	Region No. in Rotation 1693	Activity at West Limb
1	17°S	344°	2	>6			decreasing
2	25 S	344	1	>6	x	1-2	decreasing
3	20 N	341	3	>6			decreasing
4	15 N	338	3	>6			decreasing
5	28 S	338	3	0			decreasing
6	22 N	329	1	>6	x		disappeared
7	14 N	303	1	>6	x		disappeared
8	8 N	300	1	-1	x		dispersed
9	25 S	295	1	>6	x		dispersed
10	14 S	270	2	>6			decreasing
11	18 S	264	3	+5			decreasing
12	33 S	251	1	>6	x		dispersed
13	13 S	240	7	>6			decreasing
14	30 S	240	3	+1			decreasing
15	23 N	238	2	>6			decreasing
16	13 N	233	1	>6	x	18-19	decreasing
17	9 N	230	2	>6			decreasing
18	15 N	222	2	>6			decreasing
19	29 S	220	1	>6	x		dispersed
20	6 N	219	1	>6	x		decreasing
21	26 N	213	1	-5	x		?
22	22 S	201	3	-4			stable
23	17 S	198	1	-3	x		decreasing
24	16 S	183	1	>6	x		dispersed
25	26 S	183	1	>6	x		dispersed
26	20 S	173	1	-5	x		?
27	26 N	170	1	>6	x	33	decreasing
28	11 S	168	1	-2	x		disappeared
29	8 N	162	2	-4			stable
30	9 N	158	1	>6	x		dispersed
31	29 N	154	1	>6	x		decreasing
32	16 S	148	7	>6			decreasing
33	9 N	144	1	>6	x		dispersed
34	13 S	128	1	-2	x		stable
35	10 N	122	1	>6	x		decreasing
36	21 N	115	1	>6	x		disappeared
37	33 S	111	2	0			decreasing
38	10 N	106	4	>6		39	decreasing
39	16 S	106	2	+2			dispersed
40	17 N	103	1	>6	x		decreasing
41	22 N	93	1	>6	x		decreasing
42	11 N	83	1	+1			dispersed
43	20 S	82	6	>6			decreasing
44	16 S	78	1	>6	x		decreasing
45	12 S	77	1	>6	x		dispersed
46	28 N	74	1	>6	x		decreasing
47	16 S	73	2	-2			decreasing
48	23 N	69	4	>6			decreasing
49	11 N	53	2	0			decreasing
50	27 N	51	2	+6			decreasing
51	15 S	50	1	>6	x		decreasing
52	12 S	48	2	-2			decreasing
53	20 N	48	2	-4			stable
54	26 N	39	1	>6	x		dispersed
55	23 S	32	2	>6		49	decreasing
56	29 S	31	1	>6	x		dispersed
57	9 S	18	1	>6	x	54	dispersed
58	32 S	11	1	>6	x	53	decreasing
59	14 S	9	1	>6	x		disappeared

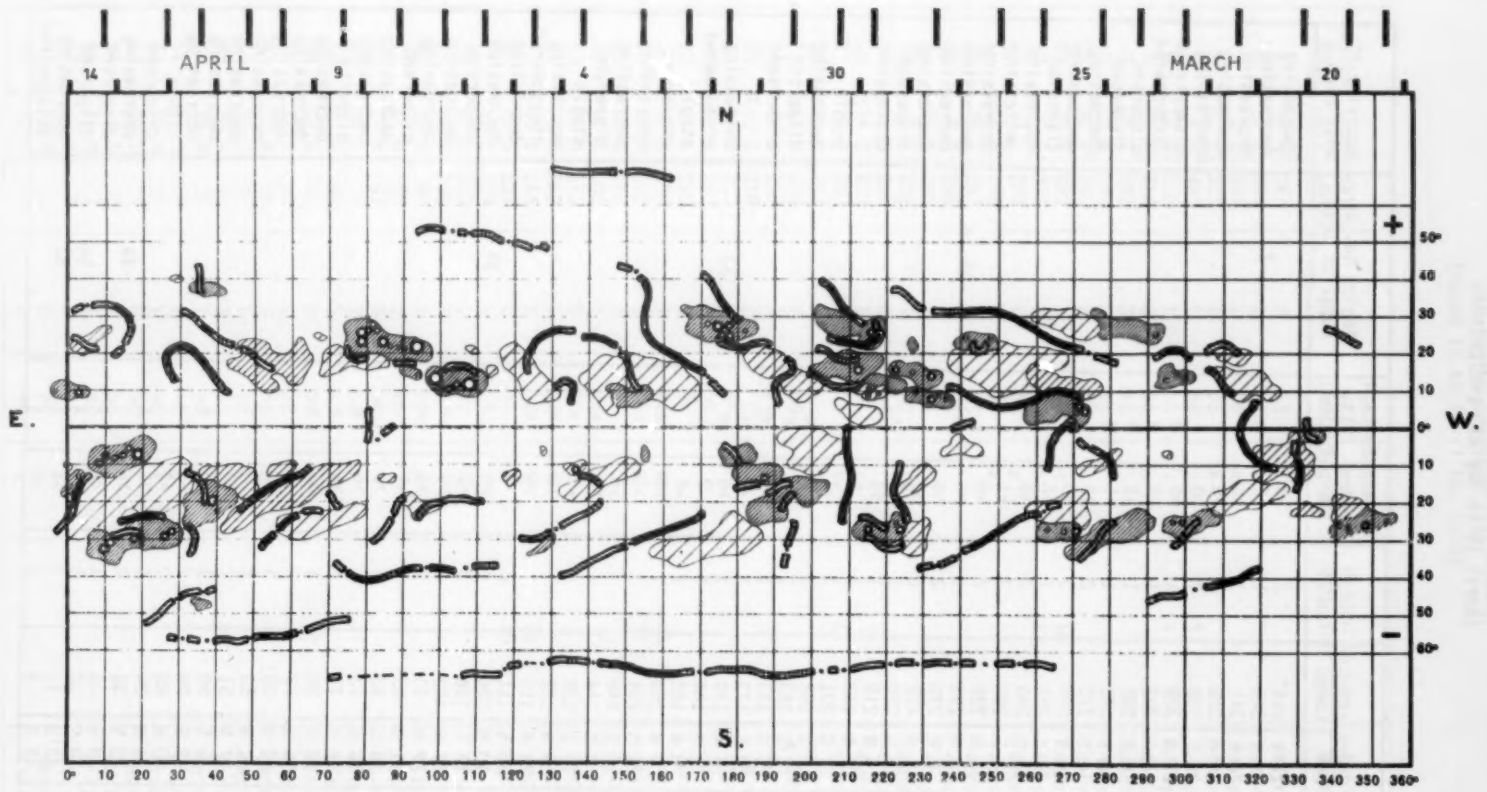
98
Misc
Mar-May 80

SYNOPTIC SOLAR MAP

CARRINGTON ROTATION 1693

March 18 - April 15, 1980

MEUDON OBSERVATORY



SYNOPTIC SOLAR MAP

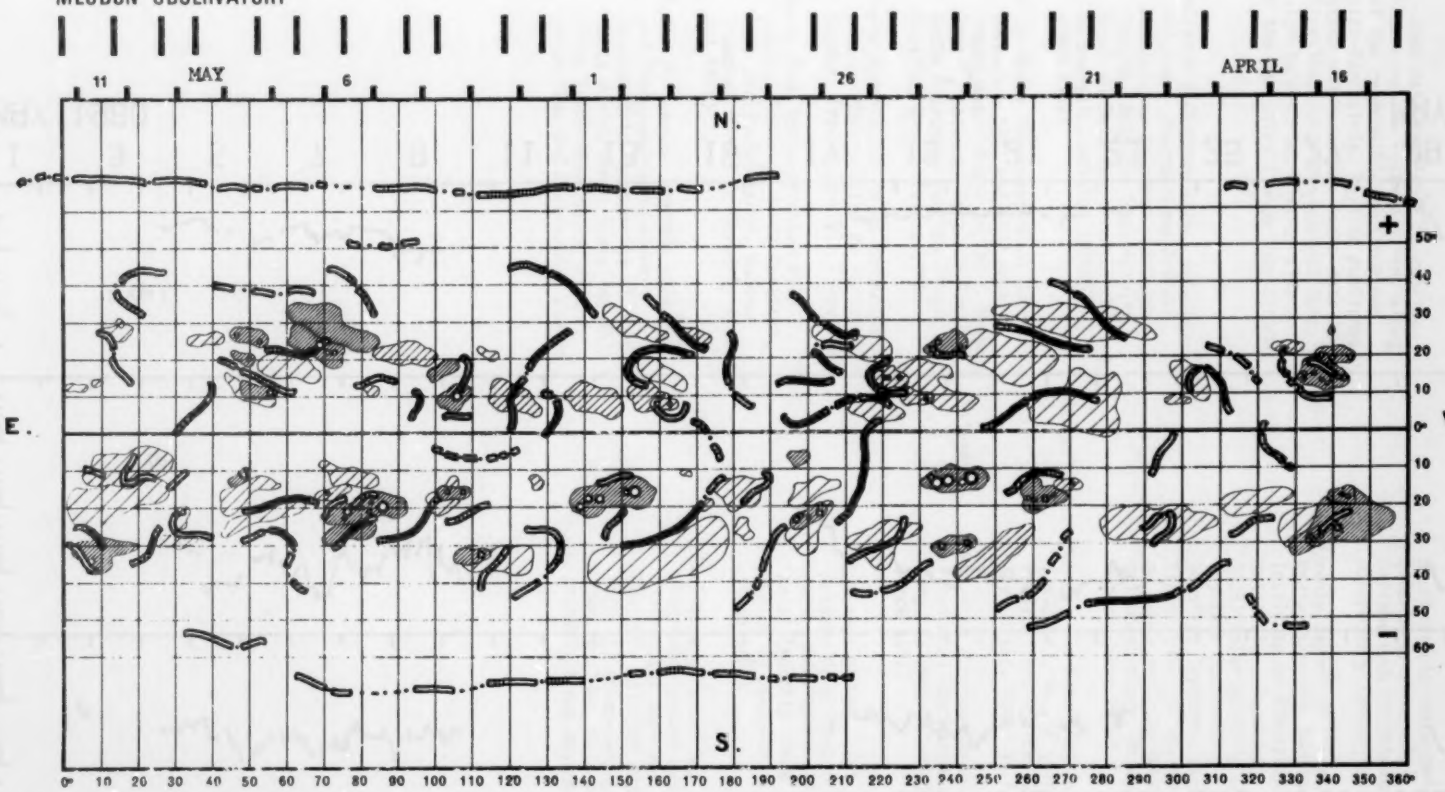
CARRINGTON ROTATION 1694

SYNOPTIC SOLAR MAP

CARRINGTON ROTATION 1694

April 15 - May 12, 1980

MEUDON OBSERVATORY



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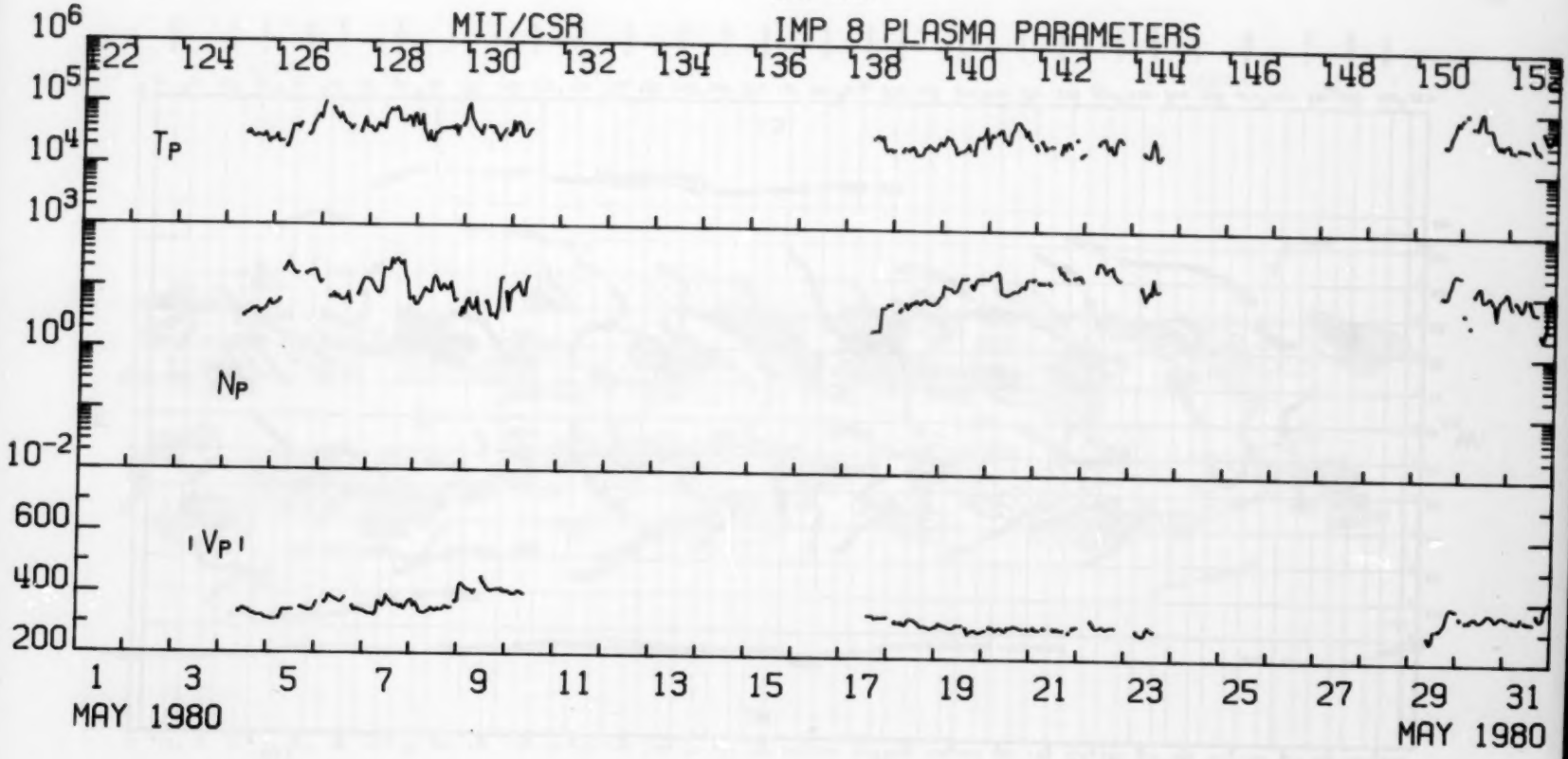
IMP 8 SOLAR WIND PLASMA

MAY 1980



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SOME OTHER SOURCES OF DATA

Data Available: Some data available in publication form are cited here. A list is given, along with addresses of the responsible institutions. The WDC-A for Solar-Terrestrial Physics publishes the Toyokawa, Ottawa and Penticton radio data in its monthly publication, *Solar-Geophysical Data*. The WDC-A for Solar-Terrestrial Physics also receives most of the periodicals when they become available.

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Germany: *Daily Mean Value of Solar Flux Density* Heinrich-Hertz Institut, 1199 Berlin-Adlershof, Rudower Chaussee 5, G.D.D. (monthly since Jul 1957)

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